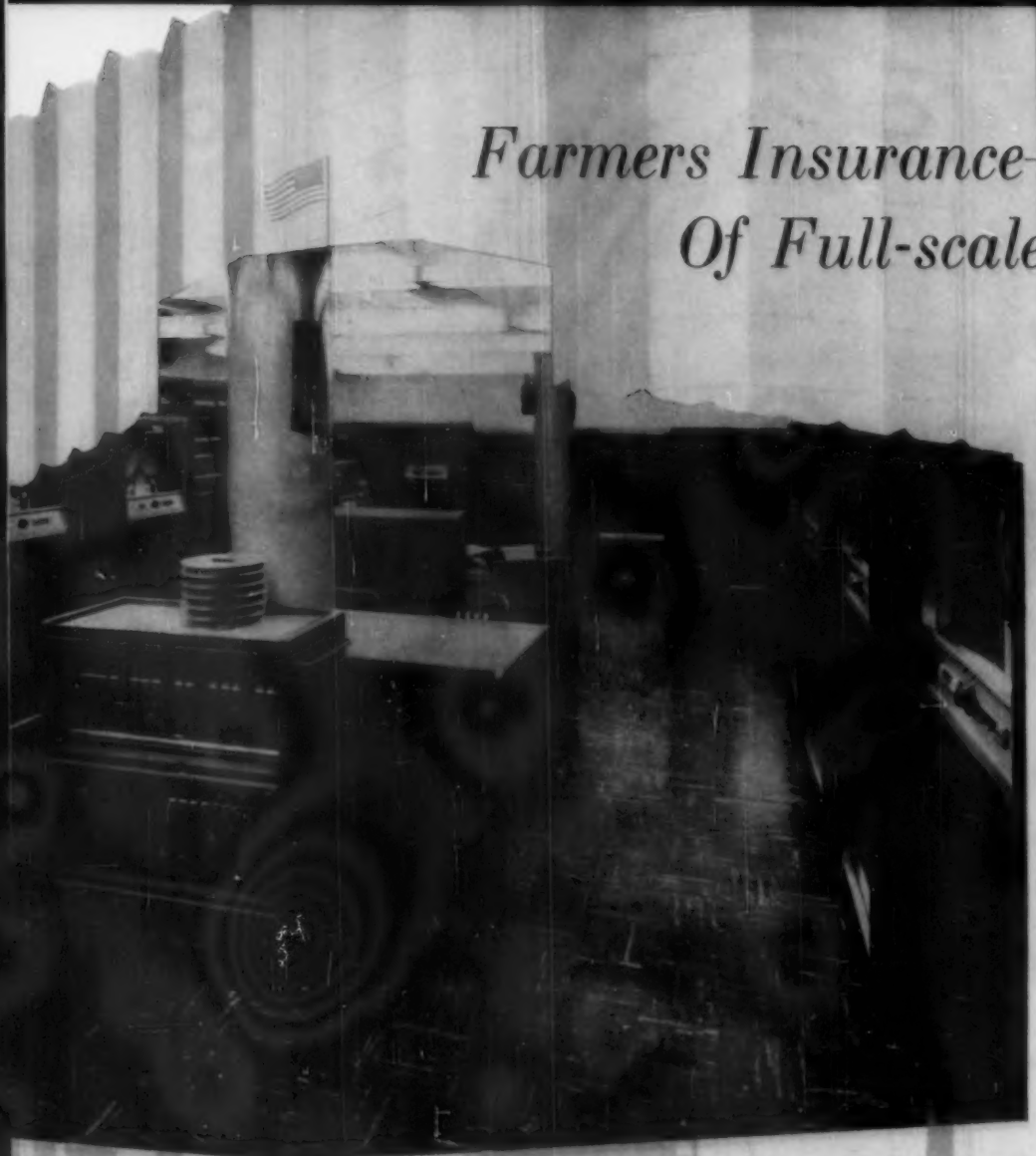
October 1959

MANAGEMENT *and* BUSINESS AUTOMATION



Farmers Insurance—Two Years Of Full-scale Automation

Page 12

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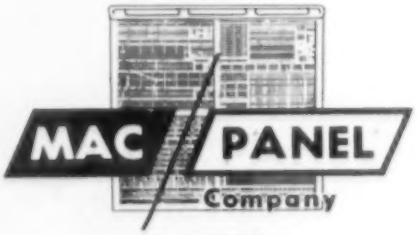

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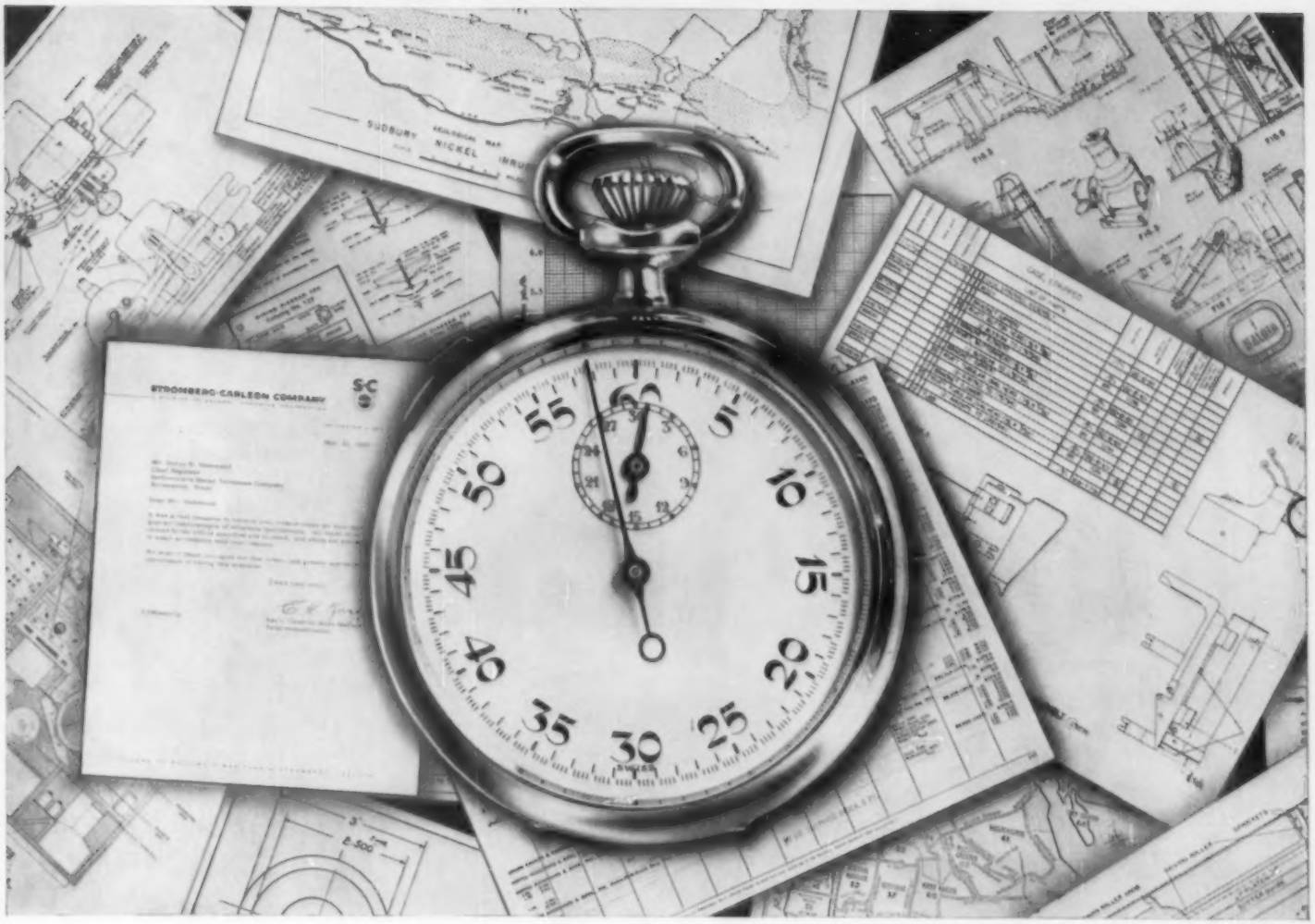

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For More Information Circle Reader Service Card No. 10-52

Letters

Dear Sir:

While looking through the August, 1959 issue of your fine publication we read with interest your coverage of the Air Force Computer Center fire in the Pentagon.

We have prepared an article for the October issue of our company publication in which we stress the need to provide adequate fire protection measures for data-processing centers.

We wonder if we might buy or borrow the picture for use with our story.

J. J. Caffrey
Manager, Sales Promotion
and Advertising
American District Telegraph Co.
New York City

Dear Sir:

Your article, "A Case of Missing Management," is the very best that we have seen on the subject of poor procedure-presentation. This material is so straightforward, truthful and timely, we are asking your permission to reprint it in its entirety.

A. A. Michaelsen
The Pro-Forms Company
San Francisco

Dear Sir:

Your "Records to Burn" editorial in the August, 1959 issue of MANAGEMENT AND BUSINESS AUTOMATION was a shocking reminder of the need for adequate fire protection for business records. May I have your permission to reproduce it and distribute copies to middle and top-level management?

R. A. Morgan
Controller
Caterpillar Tractor Co.
Peoria, Ill.

Ed. Note—Permission cheerfully granted in all three cases.

Dear Sir:

The article "The Wave of Tomorrow" made very interesting reading. More information in this communication medium should make an interesting addition to research and library setups.

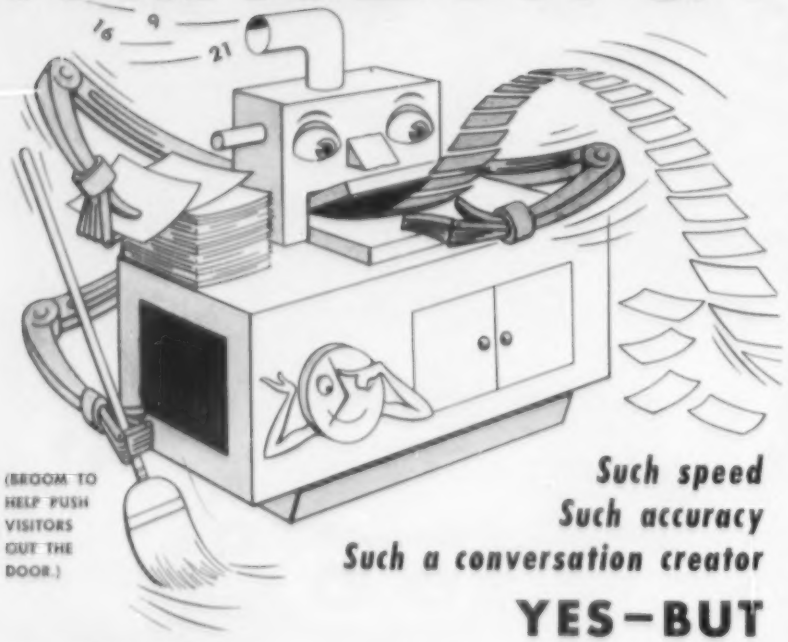
James Nakos
Director, Research and
Library
Hartford Chapter
NMAA
East Hartford, Conn.

Dear Sir:

Congatulations on the continued success of your publication. You have raised one particularly vital issue—among many others—and that is the problem of labor unions in the data processing field, as well as in other white collar ranks. I think you have brought up a most vulnerable point, and it is one of which a large segment of our membership has little or no awareness of its potential implications.

James A. Hunt
Ex-National Vice President
NMAA
Winter Park, Fla.

AMAZING!



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YES—BUT

What do you do with invoices, checks and other media that come from your MIRACLE COMPUTER that must be put in envelopes???

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MANAGEMENT *and* BUSINESS AUTOMATION

October, 1959
Vol. 2, No. 4

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Computer Guides New Sky Giants

AS the United Air Lines' sleek DC-8 Jet Mainliners zoom across the nation's skyways they are following an optimum flight plan developed by a general purpose digital computer at the company's Operation Planning Center in Denver.

The computer, a Bendix G-15, will select flight plans which offer maximum advantages for United's jet flights, which went into transcontinental service last month. Flight Operations experts of the air line are confident that use of the computer will account for substantial gains in speed, comfort, economy and dependability in planning flights for the huge jets.

Selection of an optimum flight plan involves many factors, such as the type of aircraft, route to be flown, wind and temperature in relation to the altitudes available, fuel consumption and gross weight.

Using the old method of manual computation, it would require nearly an hour to work out the details for one possible flight plan prior to a jet airliner trip. According to Tom M. Plunkett, United's manager of operations planning, "the computer can process the same details in about three minutes."

This faster method is necessary because of the need for great accuracy in preparing jet flight plans, points out Mel E. Balzer, a research meteorologist at United's Weather Center in Denver. This highest degree of accuracy can be obtained only by analyzing many more flight plan possibilities than would have been feasible under the manual system of computation. "A jetliner," says Balzer, "is very responsive to atmospheric conditions, especially temperature and winds."

Ten times as sensitive

He estimates that the DC-8 is ten times more sensitive to temperature changes than piston-power airliners. Air temperature aloft governs the direction of the winds but even more important, the temperature directly affects the performance of jet engines.

Air is sucked into the jet engine and compressed, then mixed with fuel and ignited. The cold air at high altitudes where the jets operate, compresses more easily but is still subject to sharp temperature changes which must be carefully considered in a flight plan, Balzer explains.

The flight plan for a DC-8 Jet Mainliner trip begins in United's Weather Center at Denver, the largest airline-operated weather facility in the world. A study of forecasts discloses several pos-

Magnetic tape, containing a vast amount of predetermined flight data for the DC-8, including performance, possible routes and altitudes, is fed to the Bendix computer which prints out optimum flight plan in only three minutes.

sible routes to follow in avoiding adverse weather conditions.

The computer then will be asked, by paper tape with punched codes, to lay out a flight plan for each of the routes to be examined. This tape carries information on the wind, temperature, gross weight and fuel requirements, along with the number of the route.

The computer is supplemented by an electronic storage unit. Magnetic tape in this unit holds a vast amount of predetermined flight data on the DC-8's. The data reveal how the aircraft will perform under various wind conditions and temperatures in respect to given payloads and amounts of fuel. Also stored on magnetic tapes is information on the routes United flies, data on their geographical location, distances between navigational check points, true compass headings and altitudes available.

The computer checks all of the information stored on the magnetic tapes, completes its calculations and then prints out the possibilities. Supplied with detailed flight plans for the various routes examined, the jetliner pilot then will make his decision on which route offers the most advantages in respect to speed, comfort, economy and dependability.

Planning and work on this unique approach to flight control was begun by United more than two years ago. According to Balzer, United is the only airline in the world to develop a flight plan computer program.

Communicating with a computer

Adding flexibility to the computer operation is another unique feature of the Operations Planning Center—a new two-way radio facility which provides direct voice communication with any plane in flight over United's 14,000-mile system. A pilot may contact the planning center in a matter of seconds when, due to fast changing weather conditions, his flight plan is not producing the desired results. The computer can quickly work out a new flight plan and the information is relayed to the flight, be it off the coast of Hawaii or approaching New York.

The two-way communication feature — with ready access to the computer system—is particularly valuable to the DC-8 operation because of the present limited landing facilities available to the jet liners.

And so as United's huge Main Liner roars into the sky it is a small and efficient Bendix computer that charts the course for a safe, swift and pleasant journey for the DC-8 passengers. ■

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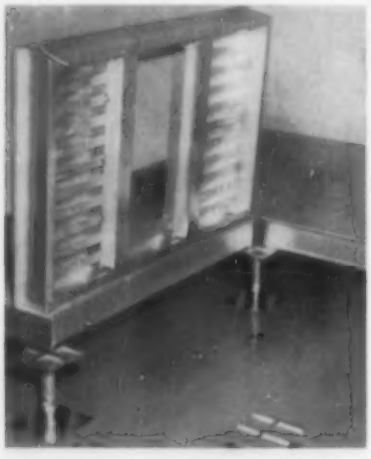
Exclusive new design reinforced panels eliminate stringers, permit total access!



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... from the

Publisher's Desk

WE'RE often asked how it is possible for our editors to come up with such complete "behind the scenes" feature articles before the information is made available to the general business press.

Perhaps the foremost reason is that Editor Keller and his staff in a short period of time have provided concrete evidence of the thoroughness and reliability which we originally stated would be characteristic of our editorial pages. Having won the confidence of the men and companies that are really making business automation news, it's a short step across the threshold and into the offices and DP centers where these feature stories originate.

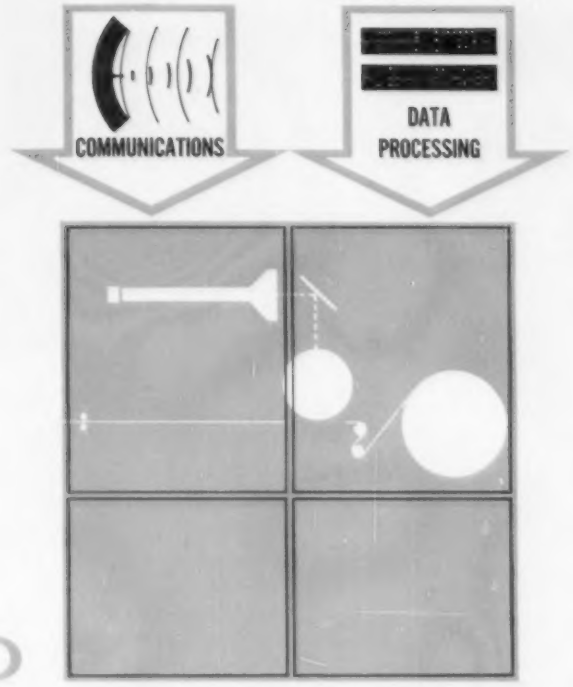
Another important reason for MBA's string of editorial "firsts" is simply good, old-fashioned journalism . . . being in the right place at the right time. This isn't a matter of luck. It's the result of careful planning, the willingness to be where the story is, and the ability to move quickly.

Manufacturers of automation equipment and supplies have been a great help, too. Having watched with interest the early development of MBA with its unique editorial formula, many manufacturers are now providing our staff with leads of the new and unusual. In these cases our editors are quick to act on these tips if they have sufficient appeal for you, the reader.

It's a never-ending job to try to stay on top of a fast-moving industry. Some companies complicate the task by being too concerned that their competition may learn some secrets if MBA were to print the full story. Such obstacles can be overcome, however, and you can count on seeing a continuing series of MBA "firsts" over the months and years ahead.

One parting thought . . . you may have a development in your firm that will add to the march of progress. The editors are always interested, and you will be contributing to the growth of business automation.

Charles W. Gilbert



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RANDOM ACCESS

DOLLAR volume of business forms sales is up 13 percent for the first six months of this year over a like period for 1958, according to a report from the Business Forms Institute. The BFI, national trade association for the business forms industry, predicts '59 sales will top the $350 million total hit last year "despite a highly competitive market."

★

Slow Progress

K. C. Lee, professor at Tang Kiang College in Formosa, has announced an improvement to the 2,000-year-old Chinese abacus.

It can now be used to calculate roots, multiply and divide. Using the new device, Lee more than held his own with a modern electronic calculator, beating it in adding and subtracting and only giving up a slight advantage in multiplication and division.

He sold 1,000 of these instruments at a recent Seattle Trade Fair. Says Lee, "In China, a seven-year-old can do problems on the abacus, and our scientists do astronomical problems on it. An electronic computer costs $250,000; an abacus $2.50. We cannot afford the computer."

No Heart!

Recently the Ladies' Home Journal received a letter:

Dear Sir: My wife has written your company three times in regard to her subscription to Ladies' Home Journal. Her first letter was by regular mail; the second via certified mail; the third by registered mail, return receipt requested. She has received no reply. All she would like to know is why she was cut off your mailing list after eight years of service.

My wife wants your magazine; she loves your magazine; she has paid for your magazine; so for God's sake, send her your magazine.

The editors took over at this point and answered: We hope you will understand when we say that we are very much in love with your wife, and that we want her with us for at least the next half century. We have however, been transferring all our subscription addresses to an awesome electronic machine which, unfortunately, has neither heart nor head. It will be completely efficient very soon, we hope.—Ed.

Now this may satisfy the lady to some degree, but there is every reason to believe that in the very near future, when she writes a similar letter (she shouldn't have to) she will get a prompt answer—right from the computer!

Prompt Action

In a similar case, a lady had repeatedly requested that her membership in a book club be terminated. Yet the pamphlets, books and bills kept coming.

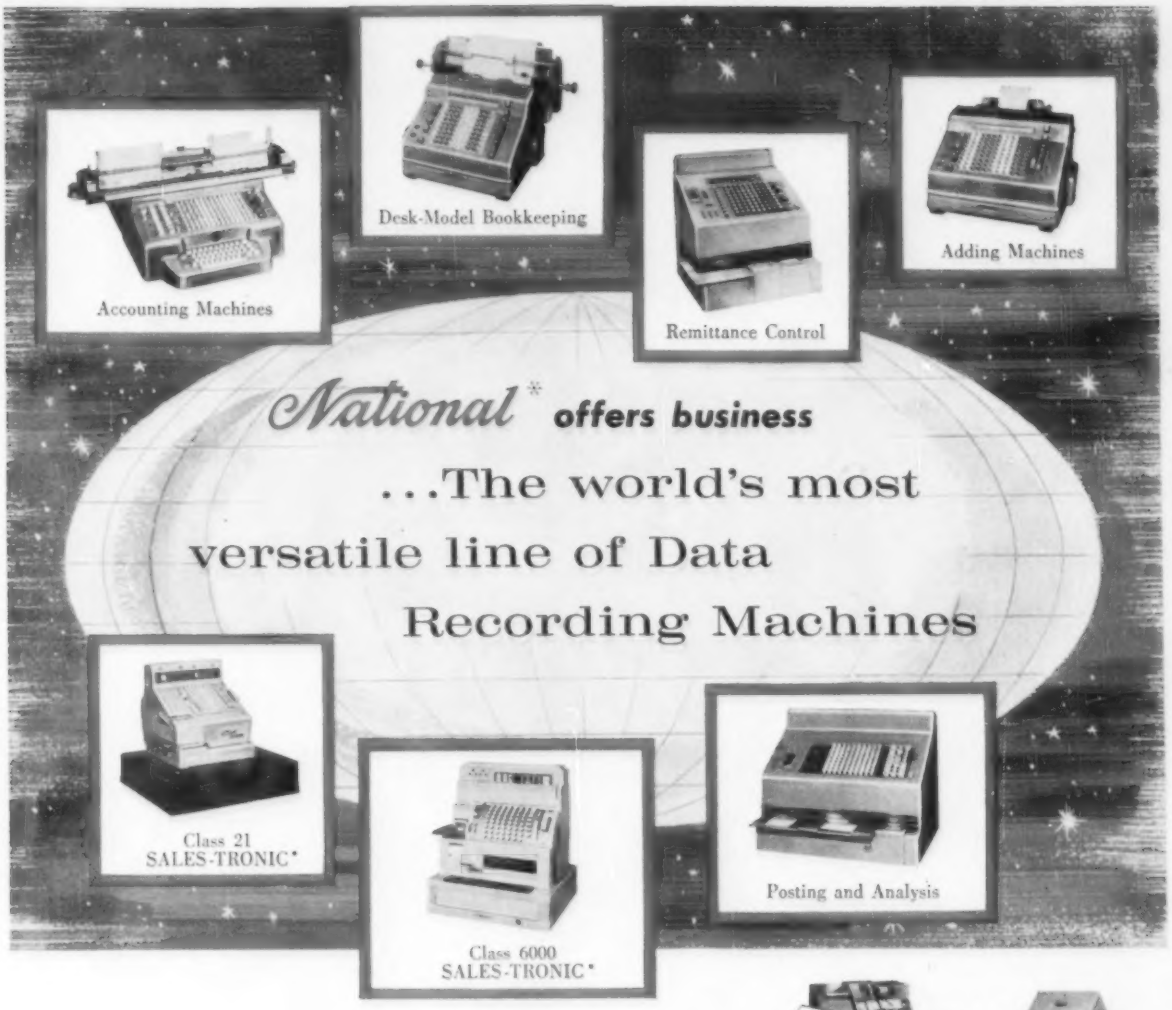
Finally, when the next bill—a punched card invoice—arrived, she borrowed the hand punch used by her 10-year-old son, added a few holes at random and mailed the card back. She is now untroubled by pamphlets, books, or bills.

'Political' Machine

Sen. Hart (D-Mich.) has a new approach to political machine—one that taxpayer can applaud. The Senator has invested $9,000 (of his $12,000 allottment for staff salaries) in business machines and cut the salaries of his 13 staff assistants to pay for the equipment. Clark's automated office contains three automatic punch-tape typewriters, a signature machine, a copy making machine—and no relatives.

Signs of Automation

The Chicago entertainment spa, featuring "Miss Univak—The Girl with Automatic Control."



New profit frontiers in data processing

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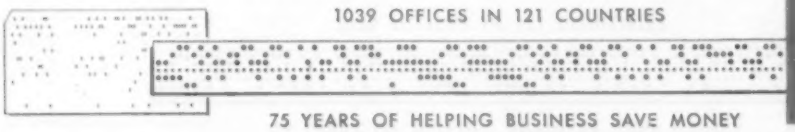

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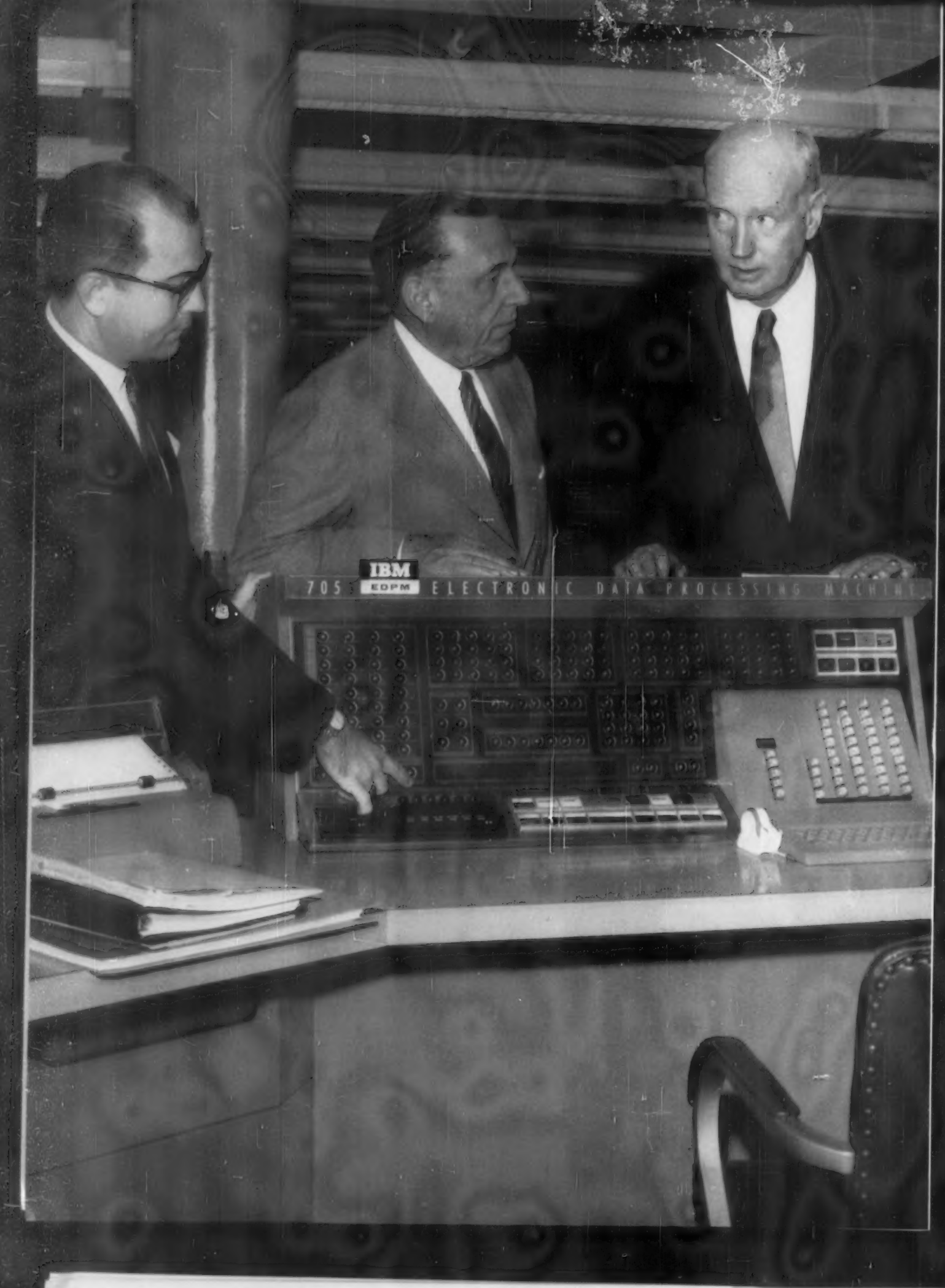

IBM
EDPM
705 ELECTRONIC DATA PROCESSING MACHINE

L. J. Bohache, assistant vice president and tabulating department manager (right) reviews computer program with John C. Tyler (center) and Thomas E. Leavey, board co-chairmen of Farmers Insurance Group.

A Computer Pays Off At Farmers Insurance

INCORPORATING a computer system into the operations of the Farmers Insurance Group two years ago has proved to be one of the most forward steps in the giant casualty company's history.

Farmers Insurance was organized 30 years ago to "give the policy holder the greatest amount of service for the least amount of money." Management today, according to John C. Tyler, co-chairman of the board, firmly believes that the computer installation—an IBM 705—has made it possible to maintain this tradition in these times of rapidly rising costs.

Evidence of the computer's effectiveness is the savings of $140,775 resulting from the first year's operation. The company has also received bonus earnings from selling second-shift time on the system to other firms and government agencies which do not find it practical to go East to test their 705 programming.

In addition, greater efficiency has been gained from personnel through an ever-increasing number of policies serviced per employe. Oddly enough, it is the high cost of operating the 705 that has brought about these tangible savings. Realizing that it is not economically feasible to tie up a machine, costing $1,500 a working day, waiting for reports to come in from outlying offices, the company has made its nine regional offices make closings on a tight schedule—a rarity for any branch operation. This demand has toned up the entire staff, caused everyone concerned to be systems and time-conscious and brought about reduced cost by eliminating procrastination.

Departments must now meet dates for the machine's functions which are precisely scheduled for each day in the accounting period. The random access features allow the company to broaden certain reports and give certain details which were uneconomical to obtain through the use of conventional equipment.

Programs currently in use encompass volume operations such as maintenance of the premium-in-force file, preparation and rating of premium notices, commission statements for agents, lists of premiums-levied for agents, accounting and statistical data for premiums written, losses and payroll.

Up-dating of policies, once an entire month's work, is now processed at one time in only 26 hours on the 705. The policies are re-rated for billing, and policy information is added to reported claims at the same time. The monthly up-dating involves nearly two million policies with

417,000 transactions including re-rating and billing of more than 300,000 of these policies and coding of 50,000 claims with policy codes for statistical use.

In addition to confining up-dating and billing to a limited period, supplemental information is retained in the memory units and used for by-products. One of the most important of these is the commission records, consisting of 400,000 entries each month.

The equipment now in use includes a standard 705 operator's console, a main frame with 40,000 characters of magnetic core storage, three 150-line-a-minute printers, 15 tape units, two card readers and two card punches. This equipment can process data requirements in a single shift, thus allowing for work load expansion. In four hours it can perform work that would take a man 40 work days to do. It reads 25,000 policyholder records in five minutes.

A mail bottleneck

Under the old system, each tab policy record was filed according to four codings, and up-dating of the policy-in-force card file was a manual operation requiring 13 clerks. The cards occupied 92 file cabinets. With an average of five million transactions per year, accounting department records were consistently behind in posting because of late information. Some reports reached accounting only on alternate months, which further complicated record keeping. The records are now kept on 80 reels of magnetic tape.

Farmers Insurance Group is actually five companies writing policies which include auto, truck, all types of fire, inland marine, personal liability, workmen's compensation and life. However, all the operations are linked for purposes of data processing. The business was started a few months before the big crash of 1929. Under the leadership of John Tyler and Thomas E. Leavey, co-chairmen of the board, the Group survived the depression years and today is the nation's eighth largest company in the casualty field—with more than two million policies in force.

Some years ago Farmers decided to decentralize; one of the chief reasons was a tremendous mail problem. Like the life insurance companies, Farmers has direct premium collection. These collections alone account for some five million pieces of mail annually, Trying to handle this mail in one central office created a growing bottleneck, so the decentralization plan was adopted to afford policyholders better and quicker service.

Today, Farmers Insurance has nine regional offices throughout the nation in addition to many claims offices. Total employment is over 3,000. Policies are recorded at these regional offices, each of which has a punched card installation used primarily for servicing accounts receivable. Cards are prepared from the policywriting worksheets and those necessary for accounts receivable are retained in the region. The cards that contain all of the policyholder statistical codes and information for premiums-in-force are forwarded to the headquarters office.

First in the West

The company uses a continuous policy system with semi-annual billings instead of issuing new policies each year—providing a huge savings in paperwork. Billing is done on a specially designed multiple-type form, a product of Moore Business Forms.

Installation of the 705 system had some flavor of the old pioneer treks to California. It was the first of its kind to be installed west of Chicago. The five day trip was made across the continent from Poughkeepsie, N. Y. in four padded vans with special truck beds. It was operating at the Los Angeles headquarters four weeks after delivery, a new record for installation.

Punched cards have been in use at Farmers Insurance for more than a quarter of a century. The IBM 601, 602A and 607, all forerunners of today's giant computers, were incorporated into the system as they were developed. Mr. Tyler, who correctly assessed the importance of business automation some years ago, kept hammering away at the necessity of employing computers in the company's system. He felt—and events have justified his conviction—that electronic data processing would be a "natural" for Farmers.

There was some doubt

As early as 1952, an electronics committee was formed among top company officials to study the problem. This committee was headed by L. J. Bohache, assistant vice president and manager of the tabulating department. The head of the tabulating department at Farmers Insurance, unlike persons with similar capacities in many organizations, is an officer of the company with the responsibility of constantly up-grading the firm's mechanical record-keeping system.

Bohache devoted about 10 percent of his time to this project, including trips to New York to study the situation. These visits covered a period of several years. However, with an efficient card system already in operation, Bohache at that time doubted that computers could show a cost saving.

The electronics committee spent 1952 and 1953 working with suppliers of large-scale data processing equipment. It was learned that the machines were practical and would give the company

A close-up view of the 705 computer system at Farmers headquarters.

more speed in processing, but the small savings in personnel and equipment in machine-operating sections and none in other departments would necessitate a 10-year write-off of installation costs —which were estimated at $1 million. A similar study of medium-sized machines showed that the current high rate of company mechanization would allow very little in the way of savings.

It was in June of 1954 that Bohache decided that government experience and manufacturers' achievements were such that a computer would eventually be economical, so he and one of his top men attended the first IBM 702 programming school in Los Angeles. Returning to his regular duties, Bohache continued to lead the system studies for the computer. The other man began a full-time job of working on the policy file program. By November he had a 2,000-instruction routine developed.

It was concluded that the only justification for switching to electronic data processing equipment was through initial savings in clerical sections outside the machine operation. A new approach affording substantial clerical savings in regional offices was suggested. This proposal, which involved drastic streamlining of the company's huge operation, earned the enthusiasm and active support of Mr. Tyler.

At this point, it began to look as if a computer might be justified, so the chief programmer started on a completely new program based on the proposals. A second man was sent to pro-

gramming school, and in March of 1955, the plan showed such promise that two more men were sent to school.

One of the outstanding features of Farmers Insurance Group's data processing program is the fact that these men laid their plans so carefully that today the same four still comprise the entire programming staff—doing the same work that requires from 15 to 30 persons in other organizations!

Five points to consider

At the time Farmers made its selection, three manufacturers' products were potentially available and were considered in detail from the standpoint of (1) cost, (2) reliability, (3) service by manufacturer, (4) flexibility, and (5) ability to tie into present equipment.

According to Mr. Tyler, in fairness to other manufacturers of similar equipment, one of the large factors in the selection of IBM was the fact that the company already was using IBM equipment in the tabulating department and it represented a minimum of changeover.

When it was decided to install the 705, no special effort was made to orient personnel ahead of time. Since management had always maintained an environment of experiment and change, this new forward step in data processing was regarded as normal. An illustrated article describing the equipment and its work appeared in the May, 1956 issue of the employe publication. Again in September, a more detailed story was run when the equipment arrived. An open house was held for employes after the machines were installed. They understood that they would be unable to visit the installation after it was in operation, but a viewing window was provided so they can watch it at any time.

Low installation costs

Actual cost of installation was one of the most economical for any 705 computer. A basement space was selected to provide adequate floor support. Only one wall had to be constructed. Air-conditioning was already available and ducts circulate it through the 705 room first. Together with the electrical transformers to provide the necessary 208 volts, cost of building the room was approximately $60,000.

A purely economic basis controlled selection of uses for the 705. An analysis of each report for size, volume of cards and so on was made to determine the soundness of using a machine costing approximately $200 an hour to perform work that could be handled on conventional punched card equipment in one or two hours at a possible cost

With the data processing system in action, it is now possible to have premium notices replace the issuing of new policies each year.

of from $10 to $20 per hour. It was decided that the smaller volume work that has always been a punched card operation would continue on this equipment.

The company is still using the three 150-line-per-minute printers. It was planned to convert to two high-speed printers, but they were found to be uneconomical because rental costs would more than pay for any foreseeable overtime use of the present printers.

From the general accounting control standpoint, very few problems were encountered in the switch to a computer system because of the very complete mechanical IBM set-up before conversion.

Processing of the 50,000 claims reported each month was the greatest area of change. Claims are roughly classified into two groups, complex and routine. Complex claims are those with personal injury or total destruction of a vehicle. All others are generally considered routine. Little clerical processing distinction was made between these two types of claims before the 705 was installed.

Each claim had all policy and claims information typed on a complete register which was punched and a reserve set up. The amount of payment was substituted for the reserve when payments were made. Complex cases are handled the same way under the new procedure except that the only policy information needed on the claims register is the state and policy number.

Other policy information now is picked up from magnetic tape. Claims information is punched

Continued on Page 37

This N.C.R. machine provides billing and accounts receivable posting in simultaneous operation while tape, in background, captures information for further processing.

Data Processing Offers Added Profits for Small Business

By Stan Englehardt
MBA Field Editor

THERE are many businessmen who feel that data processing is strictly for the "big boys." Unfortunately, this fallacy is depriving many a small business of the added profits that can be obtained through a more efficient method of data handling.

Data processing techniques are no more the exclusive domain of big corporations than the double play is limited to the major leagues. A well-versed "Little League" team can nail as many men in "twin-killings" as a major league pennant winner. Of course, there's a variance in speed, movement and technique between the champions and the little league combination, but the effect is the same.

Like the double play, data processing involves speed in handling plus efficiency; the results are definite savings in time and effort. These savings are being realized by small businesses today in increasing numbers. There are literally scores of data processing systems rolling off production lines that are specifically designed for the smaller operation. Some are brand new—others updated versions of older systems. All, with proper application, can save the small businessman manpower, time and money.

We usually think of a data processing system as encompassing some electro-mechanical machine or tools—or a method whereby a number of different records can be posted at the same time.

Nobody will question the new, small computer as a data processing tool, for example. Punched

Manufacturers haven't over-looked the small user as they develop equipment geared to every business pocketbook.

card equipment naturally falls into this category, and even bookkeeping machines must be counted as equipment for office automation because they provide simultaneous posting to a number of documents.

But—these are the obvious data processing tools. There are other means of work reduction that are pointedly geared for the small business operation—such as retail stores, wholesalers, insurance offices, school libraries, medical groups or even repair shops. These form the starting point for this summary.

As an example, let's shift our attention to one of the most critical areas in a small (or large) business operation—namely the accounts receivable file. The old-fashioned multiple posting systems are fine when there are relatively few accounts. But, when accounts reach substantial proportions, multiple posting is neither necessary nor recommended.

There are a number of data processing systems designed to facilitate accounts receivable work. Possibly the most efficient for the small business —with a disproportionately large number of accounts—is the unit accounting plan. Basically, the unit plan is a method whereby a copy of the invoice becomes the accounts receivable ledger. This eliminates all posting and provides full information on the charge.

In practice, the unit plan is quite simple. Each account is assigned a place—or pocket—in a tub-type file. When the invoice is written, a carbon copy is dropped into this pocket. This provides physical evidence of the charge. By the same token, when the remittance is received the copy is pulled. That's just about all there is to that.

Yet the benefits are there. For one thing, this ledgerless system means that charges and credits can be handled about 40 to 60 percent faster than under multiple posting systems. In a small distributing company, a manufacturing operation or a retail store, this saving translates directly into a manpower reduction. It means that one clerk can handle many more accounts—and do it faster and more accurately.

There are a number of file manufacturers and systems firms which produce a unit accounting plan. The Remington Rand SUIAP (Simplified Unit Invoice Accounting Plan) and the VISI-record systems are two that offer certain additional features, mostly in credit control.

Naturally, an accounts receivable system is only as good as the controls built into it. Credit controls are largely determined by past history of the account, therefore some readily available record is essential to keep the system flowing smoothly.

In the SUIAP and VISIrecord systems, the performance of an account is summarized on a credit history card which makes up the customer's portion of the file. When an order comes through, a quick check of this card is all that is necessary to get the past payment history. No recourse to ledger books or separate files is necessary.

Many shapes of EDP

The direct result is that credit authorization is both fast and accurate. With all pertinent information concentrated in one place—the customer's file pocket—it is possible to assign credit duties to the file clerk. This means one less name on the payroll.

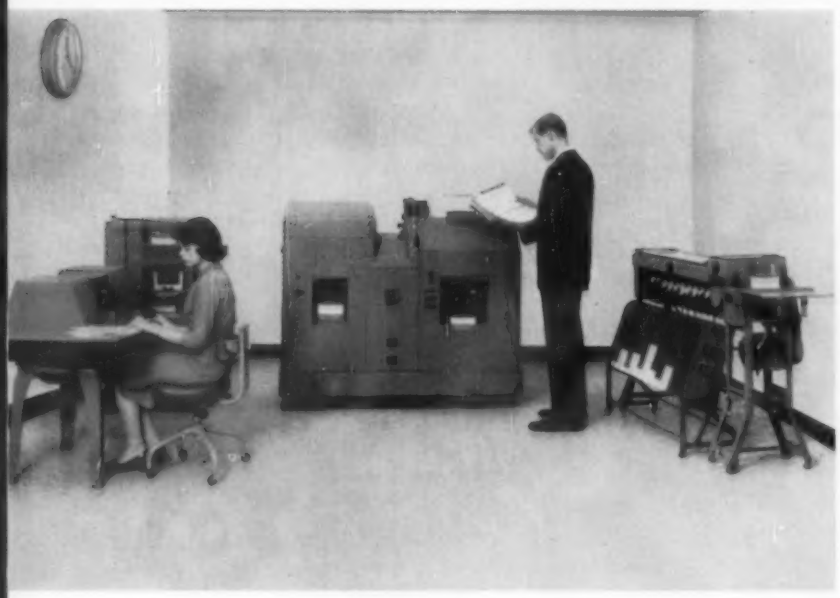
The unit plan has many other positive points. Some systems feature a color signalling device on the edge of the card to provide visual aging of accounts. Most systems also provide visible means for identifying the customer either by name, number or geographic location.

However, the very fact that there is no posting required in the unit plan can make it unacceptable to some businesses. As an example, a branch store operation (such as a credit jewelry chain) is made up of small purchases and small payments in several places. The unit plan—although it is fast and efficient—doesn't provide the necessary information required for centralized control.

That is why posting is sometimes necessary and why data processing systems take many shapes and forms. One of these forms—by no means new but still valuable under certain conditions—is the poster board system, a means of posting to a number of documents at the same time.

Use of the poster board, such as the Royal

The IBM Series 50 system, a line of punched card accounting equipment for small business. The equipment shown here rents at $270 a month.



This is a typical installation of the new low-cost punched card data processing system being offered by Remington Rand Univac Division of Sperry Rand.

McBee Time Payment Poster, means that entries can be made simultaneously to such documents as the customer's receipt, ledger card, office journal and the central accounting report. In this system, there is only one posting step—but many entries are the result. Carbon paper and automatic alignment features of the board insure accurate posting to all records.

With this system the credit jewelry chain would be able to keep rigid control over payments made at windows which are physically removed from the central accounting office. The poster board is well-designed for branch activities because of the many reports which can be posted in one step. These reports serve as a "daily newspaper" to central headquarters. The direct result is management control over widespread collection facilities.

From a cost standpoint, both the poster board and the unit plan systems provide excellent control at little expense. They are systems specifically created to eliminate multiple posting steps—whether they are in accounts receivable, accounts payable, payroll or inventory updating. The object is always the same—get the data into the record with a minimum of transcribing steps.

But data processing often means much more

than just entry of information and maintenance of adequate records. In most cases, a data processing system has as its object the direct or indirect use of information on file. This feature frequently means the difference between red and black ink in an operation.

Take a small manufacturer with a yearly gross in the low six figures. The product comes in 10 models, six sizes and six different colors. Each year this assortment is turned out on an established schedule or according to what sales indicate as "hot" items.

But there is no certainty that today's production actually reflects tomorrow's customer needs. There is no one who can say that red will sell the best or that the medium size will be in demand. No one knows how many will be needed.

The manufacturer wants this information, but he doesn't know where to find it. The fact is, it is probably closer than he realizes—right in his own files. It's there for the asking, but he has to have some efficient means of getting it out.

Data processing can do this job. The actual system used depends upon budget, operation and choice. There are two or more methods available to serve the needs of the small business.

Under $100 a month

One of the most efficient means of picking bits of data out of a mass of facts and figures is the punched card. The card is extremely valuable because it can be used for so many jobs—and it provides answers quickly and accurately. Once data has been coded into cards, they can be utilized for routine accounting functions as well as for by-product reports.

To some, the very mention of punched cards creates a vision of machines, flashing lights and high monthly rental charges. The fact is—a small business can utilize a punched card system for under $100 a month rental fee. Even a system requiring a card punch unit, electronic sorter and accounting machine can be rented for less than $300 a month. This is about the salary of an unskilled clerk!

Both the IBM Series 50 and the Remington Rand "low cost" punched card systems provide full operational ability for firms to process just about every phase of daily accounting work. At the same time, these systems can be expanded to include electronic calculators and auxiliary equipment without excessive trouble or expense to the businessman.

The basic concept behind this new low-priced punched card equipment is re-engineering of certain models to perform at lower speeds with reduced capacities. In effect, the equipment is the same as used by large corporations—with mechanical changes to make it more economical for small operations. This mechanized equipment opens new horizons for the small business.

As another example, a small school can free teachers from scores of clerical tasks and still provide more complete scholastic and accounting records at no extra cost. As a by-product of this routine work, the system can make it possible to provide a detailed measure of teaching methods, pupil progress and general school efficiency.

A line of inexpensive data processing machines in the office of a wholesale liquor distributor, in a similar case, can mean tighter inventory control and better utilization of capital. Orders will be treated more quickly and will be accurate, yet at the same time clerical overtime should be virtually eliminated. Pre-billing will become physically practical with this type of a system, and accounts receivable statements will be ready on the first of the month.

Non-mechanical automation

Most important to the users of punched cards, however, is the ability to obtain sales analysis figures. Cards can be run through the accounting machines to get reports covering any number of categories—sales by salesmen; sales by model; by size and color; by location, and so on. This is the way the manufacturer can find out where he is selling, what he is selling, and in effect, why.

The standard IBM or Remington Rand punched card, however, is only one type of a card system. Royal McBee, for instance, has developed the Keysort system which offers an even less expensive method of data processing.

The Keysort system, using edge-notched cards, can initiate a wide variety of data processing

next month . . .

The Office Manager—An Automation Casualty

The rapid rise of automatic data processing has relegated the office manager to a minor role in the modern office, and, in many cases eliminated him altogether.

Royal McBee's Keysort tabulating punch simultaneously code-punches quantities into body of Keycost cards, accumulates data in machine and prints detail tape.

systems without recourse to mechanized equipment of any kind. This system involves posting of specific data onto cards and then edge-notching or coding the cards for the information contained.

When these cards are grouped together, the simple expedient of inserting a tumbler (or Keysorter) at the coded point will cause the notched cards to drop out from the rest of the pack. This means that cards can be selected from a group with no machine action.

Many reports can be compiled at low cost with this system, and it is, in effect, a punched card method scaled down to meet the needs of the small operation. It can also act as a stepping stone to more automatic data processing as well. Bringing in a Keysort tabulating punch, for example, permits punching of codes into the body of the cards for automatic machine compilation of totals. This means, for a rental fee of about $100 a month, a small company can have all types of statistical data which otherwise would "sit in the files."

In discussing these systems, there has been a general reference to "rentals." This is not always necessary, since the equipment can be purchased outright. There are also other automatic systems which do not depend upon rental equipment at all.

Duplicating machines, copying machines—and offset presses—are common office tools today. Yet many of the new spirit, fluid or heat transfer machines can play important roles in data processing systems.

An excellent example is a small bank loan system. When a loan is made, all the pertinent information is recorded on a duplicating machine master. Then, by blocking out parts of the original, dozens of different size and type forms can be run from this single master.

Only one typing operation is necessary to prepare documents for all departments. If a bookkeeping machine is tied in with loan accounting, it means a lot of mileage will be gained from one transcribing step.

Selecting a system

The result is that some of these systems provide speed and efficiency that is comparable to many card systems. Furthermore, a duplicating process can be used as an adjunct to a punched card system.

It is apparent at this point that many of these systems are interchangeable and complementary. There is no one system—and no simple answer—to fit the needs of every small business. In selecting a system, management must consider many factors: volume, speed and ultimate objective. Most important is the expense which must be justified by the return.

There are many small firms which have the problems of large corporations without the budget. These companies cannot afford to make a mistake, and they must consider every factor carefully. Their most important aim is to select a system that has the ability to expand as the company expands.

It is fortunate that most of the systems designed for use by small business are easily expanded to meet increased volume. The new typing calculators and desk-size computers, as two examples, can both "hook" onto most processing systems to provide electronic handling of figures.

In typing an invoice, machines like the Friden Computyper or the IBM 632 can be programmed to feed quantity, price and discount data directly and automatically into an electronic calculator unit. The machine computes the extensions and automatically causes the figures to be typed onto the form. In addition, the calculator unit accumulates data and types the final totals into the appropriate space on the form.

In addition to the printed output, these ma-

Continued on Page 38

Order-Invoice Paperwork Trimmed to a Minimum

An automated offset system saves time and money for a B. F. Goodrich division.

Russell R. Ruth, senior procedure analyst for the B. F. Goodrich Industrial Products Co., sees the system as "revitalizing sales order-invoice procedures."

A SINGLE typing in a sales office is all the writing necessary to originate order and invoice paperwork for the B. F. Goodrich Industrial Products Co.

In a search for faster, more uniform, more economical order-handling methods the company established two goals—expediting internal procedures and providing greater customer satisfaction.

Both goals were accomplished with the introduction of an automated offset IDP system which, in the words of Russell R. Ruth, senior procedure analyst, "has revitalized the B. F. Goodrich Company's sales order-invoice procedures."

Detailed cost studies—required to justify the system—revealed that it will yield annual savings of $30,420 for the firm, he added.

The company was, and still is, faced with long lags between receipt of the order and invoicing. The Akron, Ohio factory may be making conveyor belting for an Alaska gold mine or a stevedore conveyor belt for a New York dock. In either case, it takes time for the plant to fabricate the material necessary to handle the abrasives.

It also manufactures more than 30,000 products in 145 departments, but the automated offset techniques have enabled the order department to standardize all order-invoice paperwork into two basic forms.

In operation, a single typing of a five-part manifold order in the sales office creates an offset master which, when received in the plant, becomes the basis for all further copies.

In Akron, an A. B. Dick Model 355 offset duplicator runs the master to create order paperwork. Included in the order papers are two more offset masters, used later to create invoices and/or back-order paperwork on the offset equipment.

There are three keys to the success of this system. The first is successful regeneration—creation of other masters from the original master—which eliminates almost all of the typing, the proof-

Manual operations have been reduced to a minimum as sales orders are duplicated and masters produced to provide control copies for every phase of the procedure.

reading and the errors that were present in the old system. Once an order is prepared and checked in the field office, its continuous accuracy is assured.

The second key to the system's success is its automation. Use of the Model 355 has reduced the number of manual operations normally connected with offset duplicating from seven to two. A program control unit regulates the number of copies made from a master, another dial on the unit controls the number of blanket wash revolutions. The only manual operations required are placement of the master on the drum and movement of an image development knob which activates the entire duplicating cycle.

Operators at this point are free to perform other associated tasks, such as collating forms and loading. Even the adding of extra copies to the forms sets (required about 85 percent of the time) is an automatic process thanks to an overchute feed table developed specially for the machine.

A third key to the system is the use of data-blocking "friskets" or tabbed blockouts on invoicing and backorder masters. The data needed for billing and backorder purposes can be reproduced from the original master. Billing information can then be added later in the spaces protected by the blockouts.

This technique has enabled the department to reduce the size of the masters, cutting paper costs, floor storage space and filing equipment costs. In addition to this, the use of the new system has eliminated what employes once called "the purple plague"—dye stains which come from contact with the gelatin plates formerly used. The stain problem, it had been found, reduced the productive work day to 7½ hours in many functions since 15 minutes had to be allotted before lunch and before quitting time to allow for washing up.

Eight broad "steps"

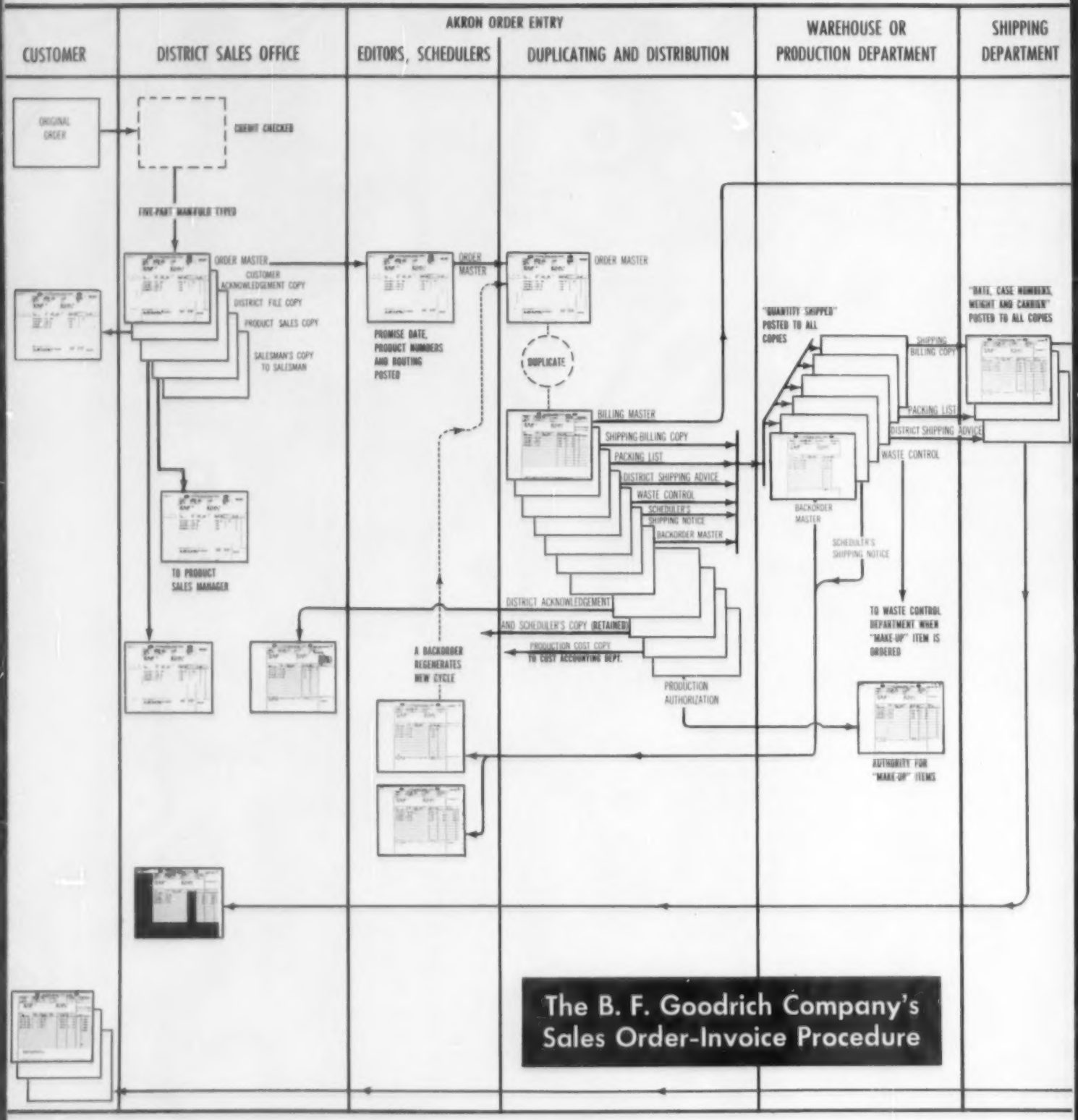
When the cost study was analyzed, it also was learned that savings were realized by a new increase in production speed, by elimination of retyping and proofreading of backorders, by using less expensive offset papers, and by duplicating some of the paperwork on blank paper instead of on preprinted forms.

The present system can be sequenced into approximately eight broad "steps." The entire procedure is graphically presented in chart form on page 24.

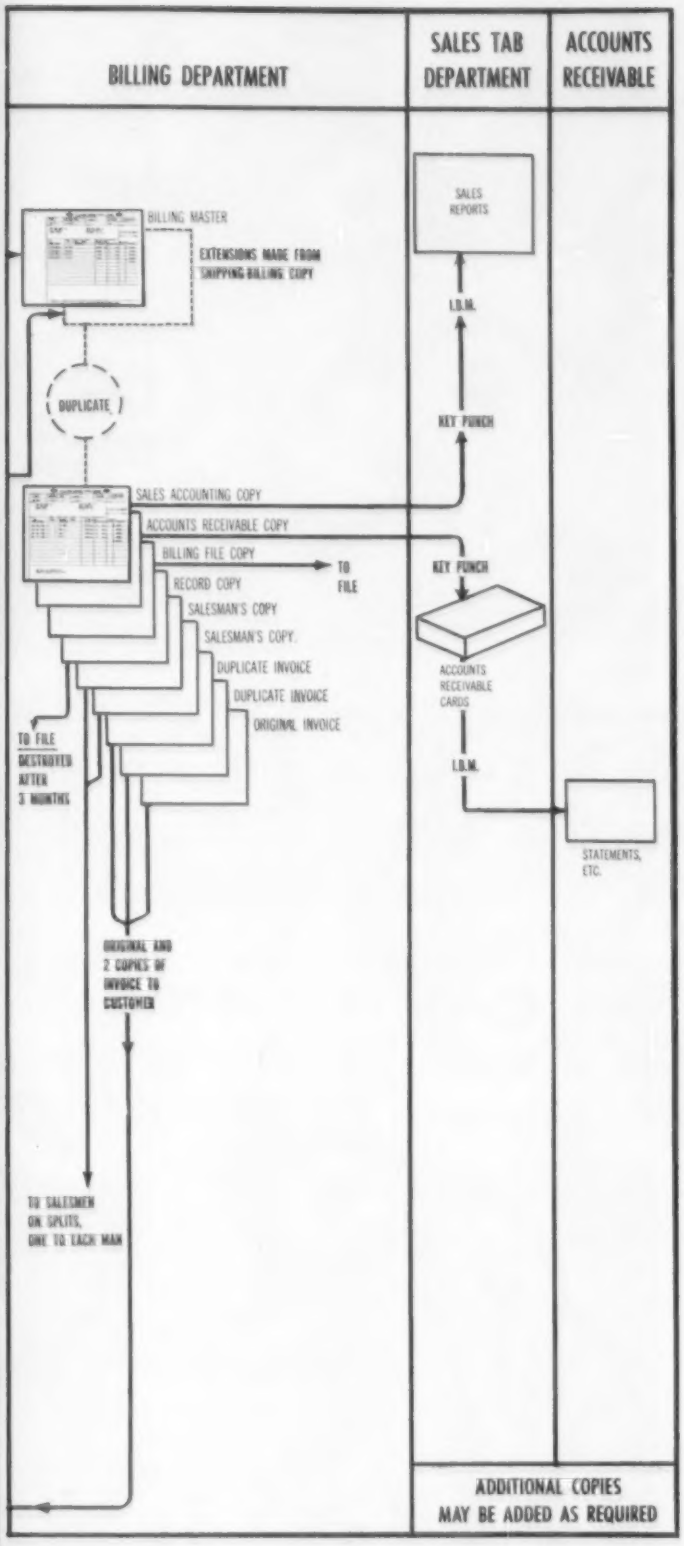
The order has its beginning in a field sales office or in the Akron order entry office when it is received and given to a typist for recording on a five-part manifold set. The top copy is an offset master. The others are a file copy, the customer's acknowledgment, the Akron Sales Department copy and the salesman's copy. The typing is proofread at this time.

As a next step, the order is sent to Akron and checked for credit approval and shipping terms. It is then edited and scheduled.

Next it goes to duplicating department where the order master is used to create a basic 11-part set on the duplicator. This set includes a production cost record, district acknowledgment, scheduler's copy, production authorization, packing list,



The B. F. Goodrich Company's Sales Order-Invoice Procedure



production and waste control copy, a backorder offset master, district shipping advice, scheduler's shipping notice, a billing offset master from which invoices will be run, and the shipping-billing copy. Any extra copies which might be required can be added during the duplicating operation by use of the automatic overchute feed table.

Copies are then distributed by the order mail clerk—to the warehouse if the ordered item can be taken from stock, or to the factory if it must be produced.

The material ordered is then ready for shipping after date, case numbers, weight and carrier have been posted to all copies going to the shipping department.

The invoicing or billing master produced in the first duplicating operation goes to the billing department where it is checked to see if extra invoices will be needed. Extensions and other data then are added to this master by a billing machine, and the extended invoicing master is audited.

The invoicing master is then placed on the 355 duplicator again and a nine-part invoice set is run off. The set is run on blank, color-coded stock; the heading, the form itself and all other information are reproduced from the form-printed offset master.

The very old and very new

This billing set includes: three white invoice copies for the customer; a pink bookkeeping copy for accounts receivable, where it becomes a source document for computer processing; a goldenrod billing file copy; a green sales accounting copy; salmon district and credit manager copies; and a yellow records retention copy. Here again, any additional copies required can be added via the overchute feed. The yellow records retention copy goes to the file where it remains for three months and is then destroyed.

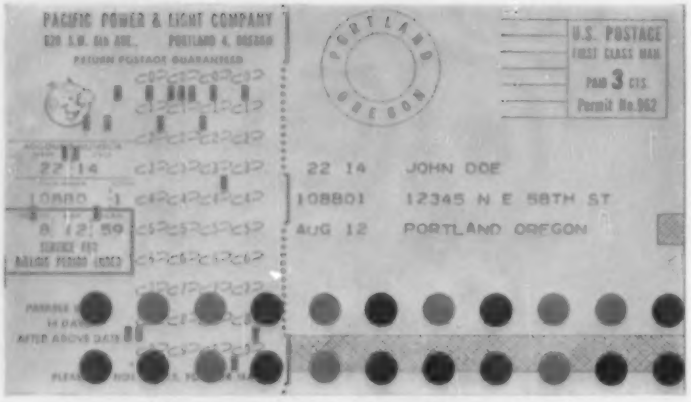
As a final step the duplicated copies are distributed to their destinations. When a backorder is present, the backorder master—which has been retained—will be used to initiate the entire order-invoice process again as the ordered material becomes available. This, in effect, eliminates any retyping of the order.

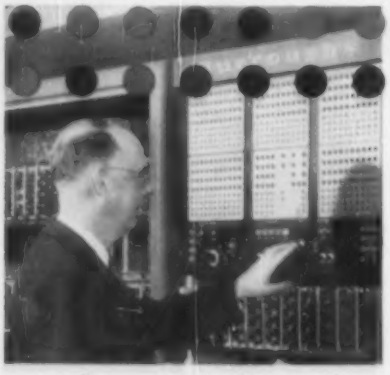
Actually, a combination of very old and very new elements has been incorporated into the B. F. Goodrich sales order-invoice procedures. The "new" element is the introduction of automated offset duplicating to produce the order and invoice paperwork. The "old" is a basic concept of IDP which has always been foremost in the minds of management of the 42-year-old company—elimination of repetitive writing through a medium which enables them to use information over and over as needed. ■

A Statement from Pacific Power & Light:

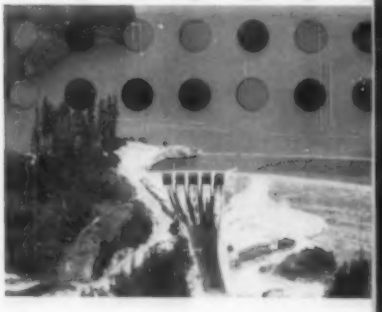
"Our Burroughs 205 computer saves us money in many ways..."

Paul B. McKee, Chairman of the Board and Don C. Frisbee, Treasurer





Programming Head Vern C. Thomas



"Our Burroughs 205 computer saves us money in many ways . . . Customer Billing, Accounting, Plant Expansion Studies, and Area and Resource Development."

PAUL B. MCKEE
Chairman of the Board, Pacific Power & Light

In many ways, a Burroughs 205 electronic data processing system is serving over 300,000 customers in the Great Northwest. The system is installed at Pacific Power & Light in Portland, Oregon, and is currently being used for accounting and engineering jobs.

In 1948 the billing at Pacific Power & Light was centralized on key-driven equipment. Three years later, a forward-thinking management initiated studies of the electronic data processing field. Stanford Research Institute was called in to work with key PP&L accounting personnel in doing a study. After an exhaustive report on computer requirements prepared in 1956, management was ready to make a selection. States PP&L's Chairman of the Board Paul B. McKee, *"We were satisfied that we had researched the problem thoroughly and were able to make a completely objective choice. We purchased a Burroughs 205 system simply because it supplied the best answer to our needs."* Delivery of the 205 was in May, 1957. The customary step from key-driven machines to punched card equipment was completely bypassed, and the first electronically processed bills were sent out in July of 1957. Regarding their venture into electronic data processing equipment, PP&L's treasurer Don C. Frisbee says, *"At the time we made the jump into electronic data processing there was no established precedent in the utility field. However, with our problems of mounting paperwork, plus our growing needs for solutions to so many engineering problems, we felt it was necessary to make a pioneering move from key-driven equipment directly to an EPD system."*

David P. Landry, Supervisor of Electronic Data Processing

Dr. James Ward, Director of Research

The customer accounting task for PP&L's 205 was a stickler because their billing problems are so numerous. PP&L's lines extend through Oregon, Washington, Wyoming, Montana and Idaho, and within this large service territory the company maintains 23 districts and 52 offices. Because its territories are so diverse, there are more than 200 different rate schedules. It also reports to five state commissions.

Despite the many complexities, *in one pass* PP&L's 205 computer now processes 30,000 items in one day. And during this same single pass, it bills customers, updates account records maintained on magnetic tape, processes connect and disconnect orders, local bills, adjustments, cash payments and myriad data changes.

Vice-President and Controller of PP&L, George Mackenzie points out, *"The computer didn't solve our paperwork problems overnight. But then we didn't expect it to. We did expect the 205 to enable us to serve our customers faster and more efficiently. . . and at considerable savings. It has more than met these expectations."* In addition, David P. Landry, Supervisor of Electronic Data Processing at PP&L says, *"Our 205 has not only been fruitful from a tangible dollars and cents point of view, but the computer is also providing new sources of information for management."*

PP&L's 205 has operated on the average of 17 hours per day over the last two years. The company has not been content to restrict its system solely to commercial data processing. PP&L is using its 205 to solve complex engineering problems concerned with the generation, transmission and distribution of power. One of the engineering problems taken over by the machine is scheduling a most efficient use of water stored behind PP&L's three Lewis River Dams to harness the full power potential of the river. The 205 program is, in effect, a mathematical model of the Lewis River hydroelectric facilities. According to Dr. James Ward, Director of Research, *"Its use has saved many hours of tedious calculations. The computer completes in one minute the solution of an operation study which requires 12 to 14 hours when done manually."*

The 205 is also tackling other thorny engineering problems. Routines have been developed for use in planning and designing transmission lines. Another problem involves the calculation of the large short circuit currents which occur when lightning strikes a line. Dr. Ward anticipates that *"the Burroughs 205, in solving technical problems for us, will provide the capabilities of a large scale analog computer, usually used for this work, and costing several hundred thousand dollars."*

In using their 205, PP&L has formed its own operating team. Board Chairman McKee points out, *"Although our data processing equipment team is composed of our own company-experienced personnel, the training they have received from Burroughs has been invaluable in the success of our program. We have found that the backing and service a manufacturer provides is as important as the equipment itself."*

Today, PP&L is working on extending their accounting and engineering uses of the 205 even further. They are confident in their explorations because the 205 has already proven its versatility. And there is assurance too, because all of Burroughs' complete line of advanced data processing systems are designed with customer expansion in mind. These Burroughs computers are currently aiding hundreds of other business and scientific users. For additional information on how the 205 or other Burroughs computing systems can help in your business, write ElectroData Division, Pasadena, California.

Burroughs Corporation *"NEW DIMENSIONS/in electronics and data processing systems"*

For More Information Circle Reader Service Card No. 10-58

"Keycard" Simplifies Labor Distribution at Norge

SOME of the most efficient methods of handling data—employing standard office equipment—are usually designed by the user to fill a particular need, but they can often be adopted by others to fit a similar need.

A case in point is a Keysort system now in use at the Norge division of Borg-Warner Corp. in Herrin, Ill. Here, under the guidance of W. A. Lauber, plant accountant, a procedure has been devised to process marginally-notched Keysort labor distribution tickets (a product of Royal McBee Corp.) in a manner which all but eliminates the possibility of error.

This division is strictly a manufacturing operation with no selling or marketing problems. It has been using Keysort cards for several years, but the procedures now being followed are the result of an evolution for which Mr. Lauber is principally responsible.

Beside limiting the chances for error, the system has simplified payroll writing based on piecework incentive, contributed to fast, accurate balancing and made possible the issuance of monthly statements much closer to the period closing.

The labor distribution ticket is designed in two sections. The right side is devoted to accounting purposes and the left serves payroll writing. The tickets are preprinted and pregrooved with available information. Part name and number, operation number, cost center and rate are placed on each ticket by an Addressograph machine.

The same information is notched to the marginal edges by an electric groover before they are released for use in the plant. This machine can handle as many as 200 cards in one operation. A check of the top card of a batch is proof that the entire group is in order. Since the groover makes symmetrical patterns when a code is notched, the presence of a "stranger" would be obvious immediately.

When the marginal notching is checked out against the preprinted face of the card, the halfway point in assuring processing accuracy has been reached.

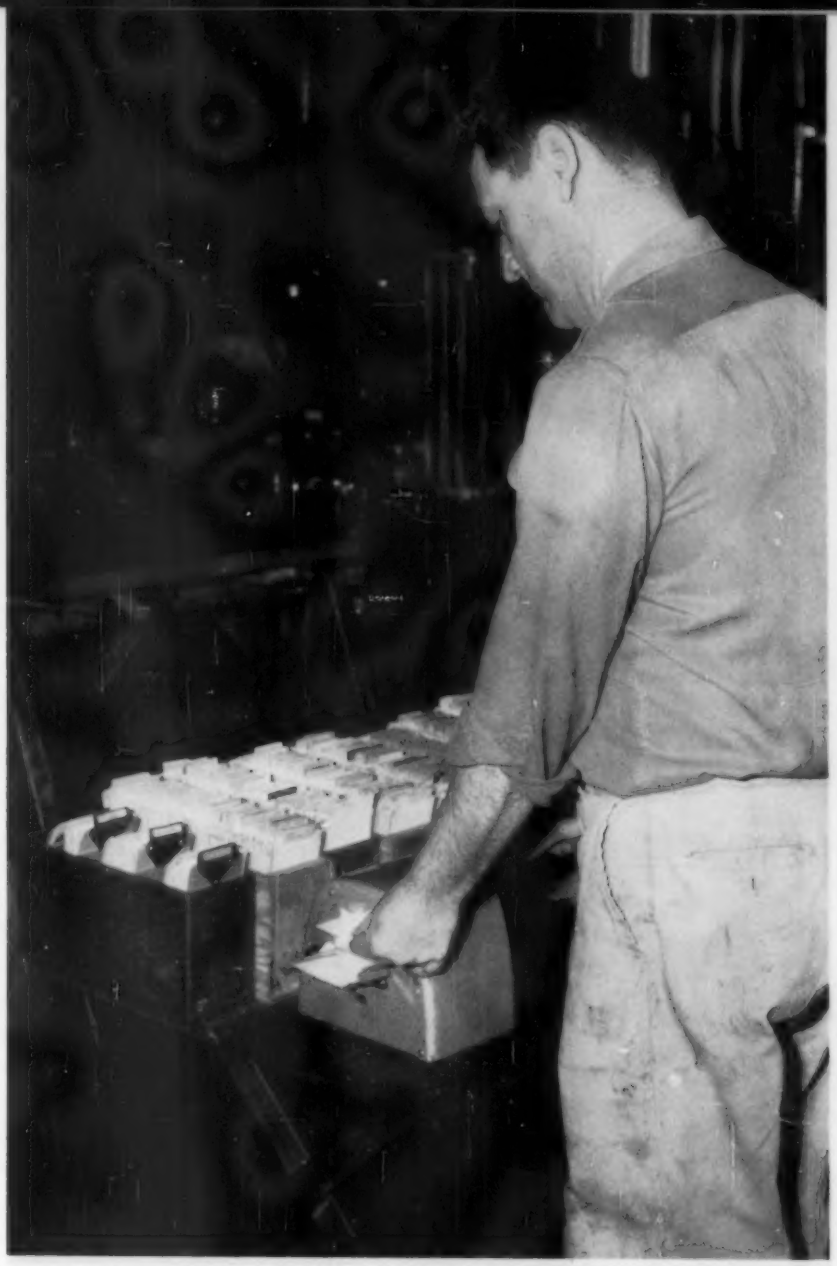
No chance for error

In action, the production worker fills in his name, badge number, home cost center and hourly guaranteed rate. At this point another device is utilized to add to the assurance that this same data will be accurately notched in the margins of the labor ticket.

This is the duplicating punch, a light, compact, non-electric device which is maintenance free and can be conveniently located in various places around the plant.

Each production worker has a master "Keycard" which is prenotched with badge number, home cost center and his guaranteed hourly rate. When a job is completed, the worker inserts his labor ticket into the lower slot of the nearest duplicating punch and his master card into the upper slot. When he activates the operating lever, the labor card is notched with the same information contained on the master card.

Since the punch will not operate unless both the



A production worker inserts his master "Keycard" into the duplicating punch after having inserted the Keysort ticket in the lower slot. The lever marginally notches his badge number, home cost center and hourly rate into the ticket.

labor card and the employe's master card are properly inserted, the chance for marginal notching error is eliminated. This means that this entered data, in combination with the pregrooved cost information assures the company that the marginal-notched data is completely accurate.

It only takes six girls

Of equal importance to the company is the fact that the labor tickets coming from the plant are ready to perform payroll and costing operations without further preparation.

A six-girl department writes the incentive payroll on McBee payroll-writing boards. These same six girls complete labor distribution and balancing with the use of adding machines and Comptometer equipment. Since the normal labor force is 1,100 (with several hundred production orders going through the plant each day) Norge management looks on this as a highly efficient operation.

According to Mr. Lauber, the present processing system has had the effect of maintaining this department at the level of six employes, where eight or more would have been required under the former system.

Time rating, once a "must" before any payroll processing could be done, is no longer a part of the accounting operation. Through the use of the master "Keycard" at the completion of each job,

William A. Lauber, Norge plant accountant responsible for the development of the new system.

When the labor tickets return from the plant, they are completely notched and ready for processing. Sorting, tabulating and extensions for payroll begins immediately.

the worker's hourly rate has been notched directly into the labor card. This means the accounting department was able to eliminate the need for two clerks who previously had this task before the work tickets could be given to the payroll department for processing.

"Simplicity itself"

Balancing labor distribution to payroll, formerly a very time-consuming problem, has been reduced to a minimum as a result of the payroll computation and the labor distribution both being determined from the same original information.

The former system did not permit cross checking between payroll and distribution as is now possible.

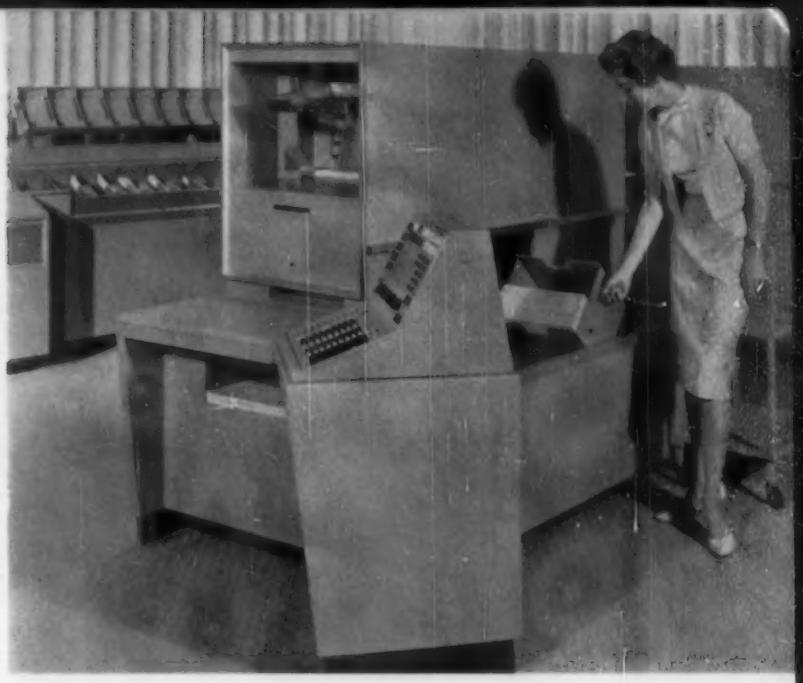
The changeover to the system was smooth and caused little difficulty for any personnel. One advantage is that it is not necessary for the employes to understand the accounting system to carry out their duties quickly, accurately and efficiently. Management was also pleased because the monthly payroll and labor statements are being issued several days sooner. These are now completed on the same day, where formerly there was at least a week's time lag.

From a procedures point of view, Mr. Lauber points to the system as "simplicity itself." No one member of the personnel handling processing can become a "road block" due to the lack of special skills, absenteeism or leaving the organization. Duties are interchangeable, and individual processes are easy to learn.

The equipment is simple to operate and is needed in relatively minor quantities, but the system fulfills all the requirements of a truly "automatic" procedure. ■

An MBA Product Preview

Burroughs B-251– For Banking Now, Business Later



The Burroughs B-251 Visible Record Computer.

A DRAMATIC new concept in electronic data processing systems, the B251 Visible Record Computer, has been demonstrated by the Burroughs Corp. at the firm's Research Center in Paoli, Pa.

The solid-state, low-cost electronic system, first of its kind to be announced, reads, at high speeds, information directly from checks, deposit slips and other documents of varying thicknesses and sizes. It processes and computes the information automatically, then selects and posts directly to the correct customer's account record.

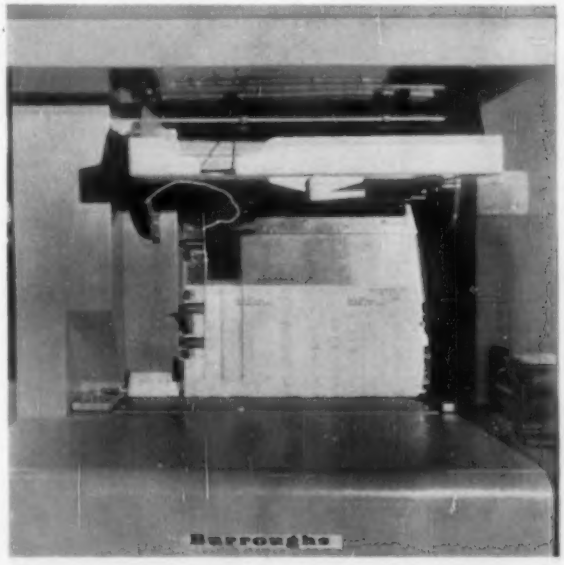
The system utilizing magnetic ink character recognition (MICR), is specifically designed for the banking industry. But, as Ray R. Eppert, Burrough's president pointed out, the system will have other applications for general business and commercial data processing problems.

The system has four units. The first is the "world's fastest sorter," a solid-state device announced by Burroughs last March. Second unit is the computer, a completely transistorized machine with magnetic core memory. Third unit is the record processor which proves and posts items on the ledger and statement forms, and computes and prints the customer's current balance. The Visible Record Computer is controlled from a console, fourth unit of the system. The console consists of program selector knobs, special controls, a panel of lights that displays status of the computer program, and a keyboard which permits entry of unusual items if desired.

In addition to the computer's low initial cost—list price is $217,400, or it can be leased with monthly rental of $3,975—installation costs are held to a minimum as no special air conditioning or humidity controls are required.

A wide-line printer with 160 print positions is used to up-date ledgers and prepare other visual records. It prints at the rate of 200 lines per minute. Printing format is controlled from a plugboard in the console. The system is capable of performing 4,000 arithmetical functions a minute and will operate with only one person in attendance. Circle No. 10-17

Programs are stored on Mylar plastic tapes which are then installed on tape readers (see at rear). The transistorized computer system can use up to 12 readers permitting more than 2,500 programming instructions at one time.



The wide-line printer has 160 print positions to up-date ledgers and prepare other visual records. It prints 200 lines per minute.

An MBA News Feature

Business Machine Executives Rate High Compensation

By D. Ronald Daniel

THE ever-increasing importance of data processing and the business automation field is clearly reflected in the recent executive compensation survey conducted by McKinsey & Co. covering 791 corporations in 23 major industries.

A relatively high level of top-management compensation in business machines companies dramatically points to the fast-paced, dynamic nature of the business in which effective research and product innovation, coupled with aggressive marketing, are prerequisites for success.

The year 1958 was a good year for the industry, the survey indicated. Profits of 12 leading companies increased 13.8 percent over 1957 while sales rose 10.7 percent. Along with these gains (probably as a result of them) the compensation of the industry's chief executives jumped 6 percent.

This bright picture contrasts sharply with the over-all results of this fifth annual survey which revealed profits down 11.7 percent generally and sales off 3.1 percent. The compensation of executives in the over-all survey also showed a decline of 1.8 percent from the previous year. This drop in remuneration was the first since the study's inception. Earlier tabulations showed a gain of 1 percent in 1957, a gain of 5.1 percent in 1956, and a gain of 6.3 percent in 1955.

A decline in compensation was found in 13 of the 23 industries studied, with industrial machine chief executives hardest hit at 8.7 percent. The greatest gain was in the tobacco industry with a rise of 8 percent. Business machines' increase was next highest.

Source data for the business machines field were collected from the proxy statements of 12 major companies in the industry. These firms ranged from giant IBM (with a 1958 volume of over $1 billion) to Clary Corp. (with 1958 sales at slightly over $10 million).

For statistical purposes, compensation was considered in the form of payments received during 1958 from salary, incentive bonus, and accruals. Company contributions to pension programs and gains realized from stock option plans are not included.

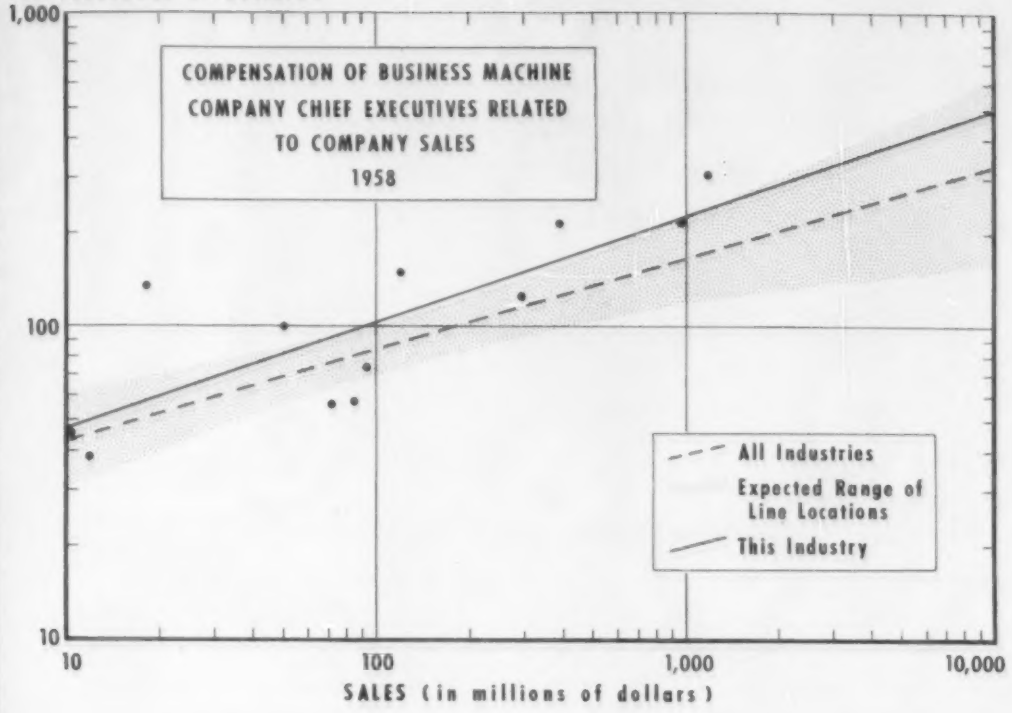
The relation between company size and chief executive compensation in the business machines industry is plotted in the chart shown here. The heavy line is the industry's sales/compensation line mathematically fitted to the individual company dots. The dotted line is the sales/compensation line for all 791 companies. The shaded band is a measure of the variation in the sales/compensation relationship that can be attributed to normal sampling error.

The chart was developed in such a manner that if one takes repeated random samples of 12 companies (the number of business machines manufacturers), the sales/compensation lines fitted to these samples would fall within the shaded band 95 percent of the time.

When a particular industry's line passes above this shaded band (as business machines does), it indicates a significant difference from the all-company average.

The chart shows that the chief executive of an imaginary business machines firm with an annual volume of $50 million in 1958 could expect $83,000 in compensation. If his company should increase sales volume 10 times, his compensation would increase 117 percent to $180,000. This is a fairly steep increase, relative to that found in other industries. Eight industries have steeper sales/compensation lines; 14 have lines of gentler slope. Thus, in the business machines industry, compensation rewards for sales increase are greater than most.

One of the boxes on these pages shows the average 1958 compensation of chief executives for 23



AVERAGE 1958 COMPENSATION OF CHIEF EXECUTIVES FOR 23 INDUSTRIES

Industries	Number of Companies in Industry	Average 1958 Compensation (000's)	Average 1957 Compensation (000's)
Steel	32	$153.0	$157.6
Business Machines	12	133.0	125.5
Tobacco	12	131.2	121.4
Personal and household supplies	12	130.8	126.7
Rubber	12	121.4	126.8
Aircraft manufacturing	25	120.4	116.2
Nonferrous metals	25	112.3	117.3
Chemicals	34	109.9	114.1
Department stores	17	109.4	112.5
Food	48	94.3	90.0
Textiles	27	93.4	99.7
Electrical equipment	54	90.6	92.1
Building supplies	33	89.7	88.8
Railroads	35	88.4	88.5
Retail chain stores	39	88.1	86.1
Automotive parts	43	88.0	92.9
Industrial machinery	64	87.0	95.3
Industrial metal products	36	86.4	90.2
Paper	23	86.1	90.0
Petroleum	36	83.6	80.7
Public utilities	39	82.1	77.5
Consumer metal products	20	78.9	83.7
Air transport	13	62.1	61.5
Average for 23 industries		$ 99.5	$100.7

COMPENSATION OF SECOND-ECHELON EXECUTIVES AS A PERCENTAGE OF CHIEF EXECUTIVES' EARNINGS (1958)

	Average Percentage for 12 Business Machines Companies	Range of Percentages for 12 Business Machines Companies	Average Percentage for 791 Companies	Range of Average Percentages for 791 Companies 1954-58
Second highest paid executive	67%	45%—96%	73%	69%—73%
Third highest paid executive	50%	27%—74%	60%	57%—60%
Fourth highest paid executive*	33%	23%—44%	55%	51%—55%

*Only four companies reported the compensation of their number-four executives.

industries, industry-by-industry. With an average compensation level of $133,000, business machines is second only to steel. In 1957 it was in the fourth position, behind steel, rubber and personal and household supplies.

These indications of affluence must be tempered, however, with a realization that the business machines industry (for purposes of this survey) consists of only 12 companies. In such a small group, the influence of a few high paying firms can be great and reflect a higher figure.

An examination of the individual companies revealed that nine of them showed increased sales in 1958. Five of these also increased the compensation of their chief executives while two reduced it and two made no change. Of the three companies with lower sales, one chief executive rated a boost in pay, one took a cut, and one stayed at the same level.

In comparison, of the 791 companies surveyed by McKinsey & Co., 306 reported increases in chief executive compensation, 267 decreases, and 218 no change.

In the business machines industry, the 1958 changes in compensation ranged from an increase for one president of 33.7 percent to a reduction for another of 20 percent.

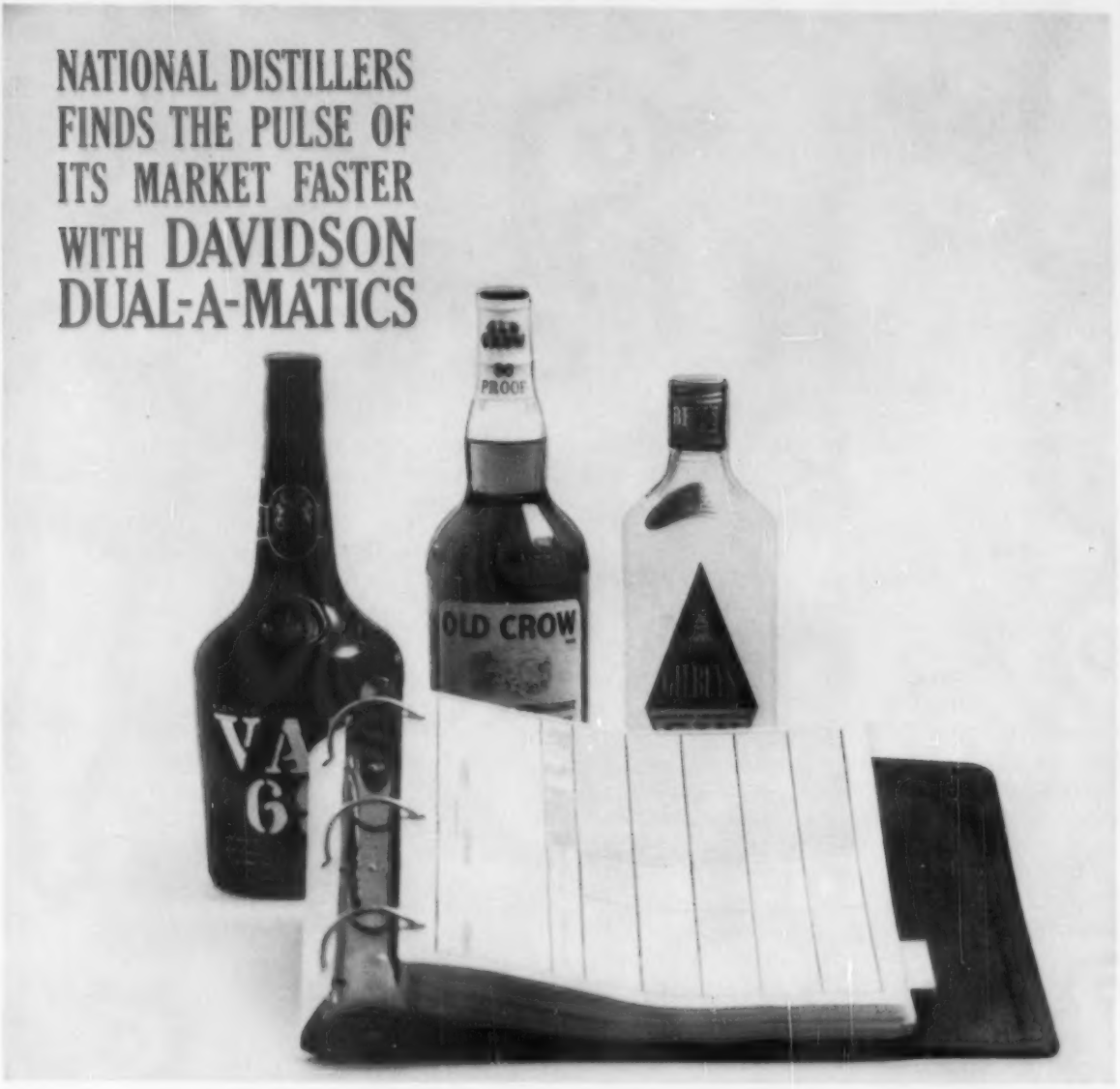
Supplementary methods of executive compensation are used quite often in the business machines industry. All but two companies contribute to a pension plan for their chief executives, and nine corporations offer stock options. Only one company reported incentive compensation (bonus) for its top man in 1958 as compared with three who did in 1957. At the same time, only three had any form of contractual compensation agreements.

Second-echelon executives also came in for scrutiny. A capsule picture of the earnings of other members of the top-management team as related to that of the chief executive is also presented here.

As can be seen, the earnings of top-management aids are at their highest point (relative to the chief executives' earnings) since 1954. But second-echelon executives in business machines companies do not fare as well, on a percentage basis, as their counterparts in other industries. However, since the compensation of business machines chief executives is considerably above average, the earnings of the number-two and three men, in terms of actual dollars, are somewhat higher than in most industries. The lack of adequate data on the number-four men prevents any relevant comparisons.

The data shown here clearly mark the business machines industry as one of the highest paying fields. This was particularly true in 1958, when office automation continued its explosive growth while the recession took its toll in many other industries. ■

NATIONAL DISTILLERS FINDS THE PULSE OF ITS MARKET FASTER WITH DAVIDSON DUAL-A-MATICS



National Distillers and Chemical Corporation has 47 plants, warehouses, offices — and ordering and shipping points in 33 cities. Most of these offices are tied together by a 7,000-mile teletype network, and a centralized data-processing center which handles paper communications.

Helping to handle National Distillers' paper work problems are three Davidson presses — a Model 242 Dual-A-Matic, a Model 239 Dav-A-Matic, and a Model 233 Dual-A-Matic. Superb printing quality and quick master-changing features make these machines ideal where short runs of hundreds of different jobs are required every day. They're perfect, also, as adjuncts of data-processing equipment . . . and in systems work. And, of course, they're capable of high quality *long* runs, too!

One of the many reports required by National Distillers is a monthly tabulation of liquor sales by brand. Sixty copies of the massive, 500-page report are turned out by the Dual-A-Matic in 2½ days instead of the former 13 required.

This report is only one of the many projects handled by Davidson Equipment. Learn more about how Davidson machines speed your work, and bring you all-around savings. We'd be glad to send you the complete story of the Davidsons at National Distillers . . . and the name of your local distributor.

FREE! *These booklets show you how to take the work out of paper work!*

Davidson

MBA 10-59

DAVIDSON CORPORATION
Subsidiary of Mergenthaler Linotype Company
29 Ryerson Street, Brooklyn 5, N. Y.

( ) *Send me a copy of the National Distillers Case History.*

( ) *Please send me your free booklets about Davidson small offset equipment . . . and the name of my local distributor.*

Name_____

Company_____

Address_____

City_____ Zone____ State_____

For More Information Circle Reader Service Card No.10-59

A Feet/Inches calculating unit works in 12ths rather than 10ths.

An Hours/Minutes machine for use in accounting in terms of time.

An MBA Product Preview

New Units Handle Specific Jobs

THREE new machines are being added simultaneously to the adding, posting and calculating machine line of Addo-X, Inc.

Two of the new units have unique applications. One is the Hours/Minutes machine, the other is a Feet/Inches machine. The third is a three-position shuttle carriage adding machine with two separate total registers and split motor bars for vertical and horizontal postings.

The Hours/Minutes machine has been designed for use in plants where accounting in terms of time is important. Air lines can also make use of the equipment for determining flying time of crews and planes.

The carry-over to the hours column (third from the left) is effected when the first two columns from the left exceed 59 minutes.

The Feet/Inches unit has use in figuring dozens and units, gross and dozens (w/o units) or shillings and pence. It can help in steel manufacturing operations, steel supply houses, lumber yards, garment manufacturing companies, banks, and any type of business where the basic unit quantity is divided into 12 equal parts rather than 10ths. The carry-over to the hours column is effected when the first column from the left exceeds 11.

To use either of these machines for adding whole numbers, two zeros must be added with each entry on the Hours/Minutes unit and one zero on the Feet/Inches machine.

The Model 441-30 three-position shuttle carriage adding machine can be made to function in three different ways by means of a selector lever.

Three-position shuttle carriage unit.

(1) As a grand total adding machine with add/subtract in first register and add in second (grand total) register, without shuttling. (2) For non-add listing of numbers in first column; adding in second column and adding and subtracting to zero in third column. (3) For non-add listing of numbers in first and second column; adding and subtracting to zero in third column.

The machine can be used as a statement and billing unit, with numeric codes for commodity description, or for numerous types of listing or column work where there is need for two numbers and an amount or one number and two amounts. Circle No. 10-15

A Computer Pays Off

Continued from Page 16

from the original draft and is then matched once a month against the up-dated magnetic tape. Duplication of handling is minimized. Routine claims are handled on a paid basis under the new procedure, and no case reserves are set up at the time a loss is reported.

The equipment is considered very desirable for many operations because of its high speed and many uses, but it is not as flexible or as simple as a card system. A simple code change may entail considerable programming changes.

For example, accurate statistical data is of special importance to Farmers Insurance Group because it sets its own rates and is not governed by those of the national boards. If the company decides to change two rating territories, under the card system it would merely adopt two new codes and change the policy-in-force record. Under the computer system, four separate and distinct programs would have to be changed.

For example, the transposition of a digit might result in a policy being dropped from the billing list contained on magnetic tape. To prevent this, the 705 is programmed to reject any "impossible" coding combinations and will return them for correction.

Management enthusiasm, a long study period, and the previously highly mechanized status of their operations are the chief factors that contributed to the rapid success of the 705 installation at Farmers Insurance.

An evolutionary concept

Yet, Mr. Tyler emphasizes, "our whole concept of electronic data processing is still evolutionary." He, and his staff, are constantly on the alert for improved methods of data handling, always keeping in mind their 30-year-old creed: "Give the customer the greatest amount of service for the least amount of money."

While some control problems in up-dating policies have arisen due to the streamlining of operations, in general the quality of work has considerably increased because of the elimination of much repetitive information. Eliminating many of the manual check points present in the old system has necessitated certain validity checks in the 705 programming. ■

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Available in four colors with inks specially compounded for photocopy machines. Gold polish, wood-cased, plastic front cone, top, point protector.

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For use with most office photographic reproducing machines. Available with hard or soft lead.

Blak-Print
A new reproducing ball pen with special black ink for use with Diazo, Photocopy, Verifax, Thermofax and Xerography processes. Black with brilliant aluminum stamping.

FOTORITE
A reproducing pencil for use with infra-red processes.

Contak
A hi-conductivity pencil designed for marking tabulating cards and test scoring sheets used in electronic tabulating and test scoring equipment.

Litho-Print
Designed for use with offset printing processes.

NOPRINT
Writing on originals will NOT reproduce, depending on color of lead.

Eberhard Faber Pencil Co., Dept. BA, Crestwood, Wilkes-Barre, Pa.
Send me Reproducing Pen and Pencil Selector Chart.

NAME_____
TITLE_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

For More Information Circle Reader Service Card No. 10-60

Systems like Remington Rand's Simplified Unit Invoice Accounting Plan can be big cost and time savers for small operations.

Small Business

Continued from Page 21

chines can provide punched cards or tape for further automatic processing.

Companies like National Cash Register, Burroughs, Underwood, Monroe Calculating Machine, Smith-Corona Marchant, Clary and others are producing equipment that plays a lead role in business automation—all priced within practical reach of small business operations.

TABULATING CARD GUIDES
FOR
AUTOMATED SYSTEMS
We manufacture a wide line of Tabulating Card Guides in plain, flat, double insertable celluloid, metal and flat angled insertable celluloid tabs.
Card Guides available in Pressboard or Vulcanized Fibre stock.
SEE YOUR Smead DEALER
WRITE FOR BROCHURE NO. TA-2
SMEAD MANUFACTURING CO.
HASTINGS, MINN.
Special guides for indexing tabulating cards are available through your Smead dealer.
Circle Reader Service Card No. 10-61

It is no longer necessary to rely on desk calculators or to be resigned to human errors. The new equipment provides an almost infallible degree of accuracy as well as an appreciable increase in operator production.

Moving a few steps up the line, there are the new, small computers such as the Bendix G-15, the Royal McBee LGP-130, and the Burroughs Series E. Their introduction means that complex accounting and mathematical problems now are relegated to electronic circuits rather than to slide rules and desk calculators.

Big things from Little Leagues

Furthermore, most of these computers can be tied into standard punched-card installations to provide low-cost, advanced computing of a wide variety of information. As an additional value, especially to the small engineering firm, the small computer can handle engineering and scientific problems as well as accounting work. With the computer on hand, the firm can run many solutions to a given problem in design or engineering to find the most practical and economical method.

While these computers are versatile and can supply all kinds of information, they also feature simplicity of operation. They can accept sentence-type instructions composed of any number of individual commands which causes them to execute entire functional operations and then print or punch the answers without additional manual effort.

The small business may be in a "Little League", but it can learn to whip the ball around pretty well. It can save time, money and effort by using an efficient method of data processing. And most important, it can use this data processing to provide customers with the same kind of service they receive from much larger companies. ■

An M B A News Feature

Tab Card Manufacturers Form Association

Simon Gaynor, American Business Systems, Inc., first president of the T.C.M.A.

Carroll Greathouse, T.C.M.A. executive secretary.

THE tabulating card industry, a big and booming business today, appears poised for even greater advances in the years ahead.

In the two years since a Federal Court ruling lifted the barrier for independent card producers, some 28 companies have become active in the field—and more are coming.

Recognizing a definite need for guidance and unified effort in the fast-expanding industry, a group of the tab card makers recently formed the Tabulating Card Manufacturers Association, electing as its first president Simon Gaynor, head of American Business Systems, Inc. of Philadelphia.

Improved service to customers, promotion of tabulating card usage and dissemination of data are among the aims of the T.C.M.A. "Tabulating cards are big business and getting bigger," Mr. Gaynor explained, "and they serve as building blocks of business expansion as well as silent, infallible sentinels of cost reduction and inventory control."

Plugboard developed

The explosive growth of the tab card industry was initiated in the 1920's when IBM developed the flexible plugboard idea for card handling equipment and increased the card-per-minute speed of existing specialized machines. Cards had actually been in extremely limited use since the turn of the century.

The earliest cards in use were three-quarters of an inch shorter than present day cards and had 20 columns. The next cards produced were by IBM and had 45 columns. By 1928, the first 80-column equipment was developed, almost doubling the card capacity. This step provided business with the necessary tool to handle large quantities of numerical information.

The Federal Bureau of Investigation was among the first to utilize these cards as a filing tool, converting its huge fingerprint file to punched cards.

War brings change

World War II brought the tabulating industry to maturity. Faced with personnel shortages and mountains of vital material and logistical data, the government and all major industries began transferring information to tab cards. The successful wartime experiences contributed greatly to the tremendous expansion of card usage during the post-war period. Today, there is scarcely a business that does not rely on tab cards for some phase of its operation.

The Tabulating Card Manufacturers Association was formed in May, 1959, and already counts nearly 50 percent of the country's producers in its membership.

Its goal of improved service, as interpreted by the membership, includes many phases from education on tab card usage to active promotion of tab card utilization in smaller businesses. There is also an emphasis on design study.

Carroll Greathouse, T.C.M.A. executive secretary, looks at the industry as coming of age. "By proving its ability to increase labor efficiency, reduce costs, speed compilation of essential data, and further the modern principle of unit control," he stated, "the tabulating card has won the distinction of being a basic necessity in any efficient business."

In his analyzation he said, "There is still a great deal of work to be done, however, and the T.C.M.A. will be a tremendous asset to this industry-wide market expansion."

To sound warning

In the field of accounting, he pointed out, the Association intends to bring to the attention of industry leaders the dangers of inflexible non-tab systems which cannot be adapted to the everyday progress of modern business accounting, a field in which tab cards are particularly effective by virtue of their near-unlimited flexibility.

In addition, the T.C.M.A. intends to foster and disseminate technical advances in tab card systems throughout the membership. As an example of this move, a member recently introduced a series of multi-colored tab cards printed on both sides, in sizes ranging up to 14¾ inches in length. This information and move can be of vital concern to the industry as a whole.

MBA Showcase

New Products for Business Automation

Keypunch Protector

A keyboard check protector with a built-in key punch mechanism has been produced by the Hedman Co. The unit automatically and simultaneously key punches the amount into tab card checks and money orders at the time they are printed. Regulation IBM keypunching is used in consecutive columns, and single or multiple punch card sets are positioned for positive registration. This means cards can be processed through tab equipment immediately. Circle No. 10-21

Portable Keyboard

A 10-key keyboard which fits comfortably into the palm of the hand has been developed by the Victor Adding Machine Co. The unit, encased in gold anodized aluminum, is designed for remote numerical transmission and inventory work. Information can be entered serially as on any standard 10-key accounting machine. The data can be received on the Digit-Matic adder, calculator, printer, any solenoid activated business machine, tape punches or other electronic data recording device which can supply required voltage. Circle No. 10-6

Diazo Copy Machine

A new, low-priced diazo copier, designed specifically for office use and only the size of a large typewriter, has been introduced by the Charles Bruning Co. The unit can produce copies in a variety of operations, including order-billing, purchasing-receiving, customer statements, sales reports, and inter-office communications. The Model 105 uses no negatives, inks or stencils and there is no stripping or peel-apart operations. It is self-contained and takes up little room in the office. The Model 105 is said to sell for less than $300. Circle No. 10-1

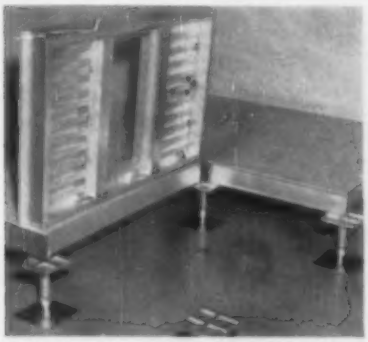
Automatic Stitcher

This portable, automatic stitcher can be used in conjunction with collators or as a separate hand-feed stitcher. It was designed by Thomas Collator Industries, Inc. as an accessory to the Rotomatic collator and can be integrated with and controlled by the collator's push button programmer. It moves on casters and offers a choice of two staple heads. A choice of stitching is also available to the operator. Circle No. 10-4

Automated Parcel Post

A combination automatic scale and postage printing machine has been announced by Detecto Scales, Inc. The new electro-mechanical unit, called Post-O-Printer, is said to be capable of handling up to 500 parcel post packages an hour while reducing the shipping to a one-man, one-machine operation. In use, the shipping room clerk needs only to place the package on the platform scale, press a button and out comes the printed postage label. The company has worked on the combination unit to eliminate the previous six-step system required. Circle No. 10-7

Raised Aluminum Floor

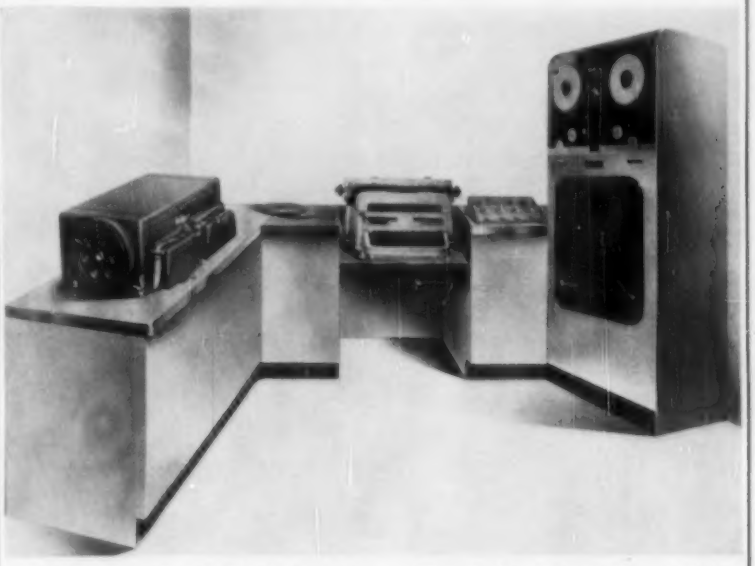


Elimination of access-blocking stringers with no sacrifice of strength is the key design feature claimed by the Washington Aluminum Co. for its raised aluminum flooring for computer equipment. The design provides free access to the sub-floor space for repair or removal or relocation of the maze of cables. Added supports have been built into the panels which are interchangeable and rest directly on aluminum and steel pedestals. The standard 2 by 3-foot panel is said to hold 5,000 lbs., and each is adjustable to maintain level. Circle No. 10-14

Label Printer

What the company terms the "world's smallest flexographic printing press" has been unveiled by Sohn Mfg., Inc. The unit prints and diecuts on pressure sensitive label paper or score cuts on gum, heat seal or plain paper. It stands only 9 by 9 inches without guard case and weighs 40 lbs. It can be operated at any place where it is needed and prints up to 6,000 labels an hour. Color and printing plates are easily changed. The unit, supplied with a roll of paper, becomes a complete label inventory on the spot. Standard size accepted is 3 by 4 inches, but 4 by 5 inches is optional. Circle No. 10-8

Univac Tape Searchwriter System



Remington Rand Division of Sperry Rand Corp. has announced the Univac Tape Searchwriter, an integrated system that provides an economical method for searching a magnetic tape file and automatically printing the desired information.

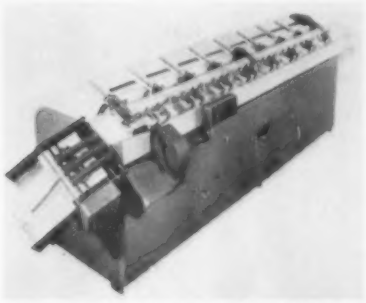
The Searchwriter should prove particularly valuable as peripheral equipment for users of Univac II computing systems. It permits the locating of tape-recorded information and the printing of desired detail without consuming computer or programmer time. It may also be used as an error-checking interrogator as it incorporates all of the checking features found in the Univac systems.

The device is transistorized for reduced size and increased reliability. It is designed for convenience, with the typewriter, operating controls and tape transport located within easy reach of the operator. With the exception of the tape handler, the system is self-contained.

A Synchro-Tape typewriter is included to permit identification of the desired item manually on the typewriter keyboard or automatically from previously prepared paper tape.

When the search is completed, the located data can be printed out by the typewriter, punched on paper tape or both, as desired. Circle No. 10-9

Eight-Station Collator



This new Maceymatic Collator, which will be exhibited for the first time at the National Business Show, is an eight-station unit designed for business collating problems. It is said an average operator can set up and collate 1,000 sets of eight sheets each in about 30 minutes. The Macey Co., manufacturers of the unit shown here, will also exhibit a four-station collator attached to the Macey Stich-A-Fold, and a four-station gathering machine. Circle No. 10-16.

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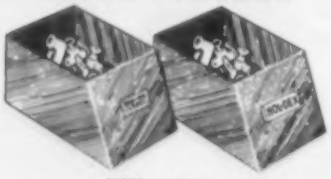

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Telegram Recording-Reproducing Machine

An electronic voice recording and reproducing machine, designed to increase speed and efficiency in the handling of outgoing teletype messages, has been announced by Dictaphone Corp.

The unit has been named the Dictaphone Telegram Recording-Reproducing machine, developed especially for business and government organizations whose day-to-day operations require volume transmittal of messages over teletype circuits.

The machine, which consists of two recording-reproducing units employing plastic Dictabelts as the recording media, is located directly at the teletypist's station. It is so arranged that the teletypist can transcribe on the teletypewriter the messages recorded by one of the units while the other unit continues to record messages. These messages can be recorded by one of the units even if the teletypist leaves it unattended for a short period of time.

The dictator, using a telephone-type unit, can dictate his message at any speed he wishes. The operator, in turn, has complete control over speed and sound volume while she is transcribing. Cir. No. 10-13

Alphanumeric Computer Typewriter

Bendix Computer Division has introduced a fully alphanumeric typewriter for use with the company's medium-scale G-15 digital computer.

Data entering and leaving the computer via the typewriter can be identified with alphabetic information and a variety of symbols.

Information can be typed into the computer in the normal typing manner, with upper and lower case letters, numbers and special symbols entered and typed out directly—eliminating the need for manual encoding of alphabetic data, conversion subroutines or programmed carriage shifts.

There is a standard numeric typewriter available as well as this new alphanumeric model. Both units utilize a new base configuration which provides maximum reliability. Circle No. 10-11

Table-top Duplicator

An office offset duplicator that measures only 24 inches wide by 25 inches long has been developed by the A. B. Dick Co. The unit, Model 320, has automatic feed and the company's Aquamatic control moistening system. It is said to be simple to operate and was designed to place an offset duplicator within the reach of many users who have need of inexpensive, departmental duplicating facilities. Circle No. 10-5

Dictating Machine

The newest Sten-O-tape dictating machine by American Geloso Electronics, Inc., is being introduced this month. The Model G-256/60 weighs 6½ lbs. and has a desk-top microphone for relaxed dictation or conference recordings. The magnetic tape provides up to two hours of dictating, and it is reusable. The unit includes a precision word counter, and there is a complete line of optional accessories available, including a typist's start-stop-backspace typewriter or foot-pedal control, and steoreo headset. Circle No. 10-18

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For Burst and Unburst Data Processing Forms

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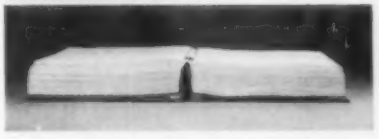

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All metal parts are concealed and covered. Top and bottom covers also have smooth rounded edge.

Other features include an inside channel which permits flat closing . . . easy sliding fasteners to hold posts down, permit a return to upright position for adding more sheets . . . nylon reinforced hinge for longer life . . . long wearing, easy-to-clean plastic cover.

NBB LOKA-POST DISPOSABLE BINDER

FOR LOW COST HOUSING OR STORAGE

Here's a post binder with a built-in lock that operates automatically when you bend the posts down, plus a cost so low that you can dispose of the binder with your sheets or keep them for storage.

The malleable all-metal sturdy posts provide ease in loading. The smooth, round post completely fills the hole and does away with the tear-out problems of flat wire or flat plastic bindings.

Simply press posts down.

The malleable metal posts stay firmly locked in position. No further locking is needed.

Heavy pressboard cover bends back for reading in the margin. You may throw covers away with the records. The cost is so low it will not pay to take the time to unload. Call your NBB stationer or send coupon below.

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For More Information Circle Reader Service Card No. 10-64

Electric Truck

The Widgit inter-office delivery truck, originally designed for mail distribution, has been made available with semi-standardized main chassis, power plant and controls for adaptation to a variety of delivery requirements. The rear body section, pictured here, can be furnished by the manufacturer, Beall Mfg. Co., with special shelves and racks to hold punched cards, Addressograph plates, supplies and other office or plant accessories. The Widgit is battery-powered and features many safety devices to keep it operating without danger to driver or employes. Circle No. 10-3

For More Information Circle Reader Service Card No. 10-65

Portable Ledger File

The Ever-Safe Co., division of Schwab Safe Co., has recently introduced an insulated portable ledger file aimed at offering convenient "point of use" fire protection for valuable records. It can be rolled alongside posting machines or other equipment and used as a file while work is being completed. The large posting tray drawer has finger tip operation with 10 roller bearing full-suspension. The second drawer can be used to store other valuable records or supplies. Since the file can be locked, it provides fire and theft protection at any spot. Circle No. 10-2

Addressing Machine

A compact, self-contained addressing machine, occupying about the same space as half of a standard desktop, is now sold by Elliott Addressing Machine Co. The unit is suited for smaller office operations or for departmental work. It automatically feeds postcards, envelopes, folders and sheets up to 7 by 10 inches in size at the rate of 2,000 addressed pieces per hour. A finger lever begins the operation, and stencils are removed and loaded by the trayful. Standard features include a transcript attachment to prepare a list on either plain or gummed tape, an automatic last stencil stop, and print roll throwout actuated when there is no material in addressing position. Circle No. 10-19

Automated Ledger Card Billing System

A new "Speed-Bill Kit" has been produced by American Photocopy Equipment Co. for use with the firm's photocopy machines.

In action, the system facilities automated billing with ledger cards—as opposed to the more conventional and old-fashioned bound-ledger method. The company has come up with a figure of $1.22 saved for each statement processed because of cutting labor and supplies cost.

The individual ledger cards have the company name imprinted and the customer's name and address typed on the top and are kept in a small, covered steel ledger tray supplied for this purpose. As customer charges accumulate, they are posted on the individual cards, and at the end of the month a photocopy is made of each card and mailed in a window envelope as a complete statement. The original ledger card is kept on file as a permanent record. The system can be used by small businesses, doctor's and lawyers offices, and with minor changes, in inventory control areas where permanent records can be updated and distributed without letting the cards leave the ledger tray.

The kit includes the ledger tray and cover, a set of A to Z dividers and 500 ledger cards printed with the company's name and columns for charges. Colored ledger cards for past-due accounts and final notices are also available. Circle No. 10-12

Offset Typing Ribbon

The Nylith offset typewriter ribbon, a fabric ribbon that is said to write like printing to produce sharp offset plates, has been introduced by Leedall Products Mfg. Co. It is available in a 48-yard size for electric typewriter spools and 36 yards on other machines. A second new product, the Nylite ribbon, has been developed for use with regular typewriting—when offset work is not in the picture. The Nylith ribbon, however, can be used for regular typing work. Circle No. 10-20

15-Station Collator

The "Collamatic 15," described as an economy model collator for use in the office, will be shown for the first time at the National Business Show in October.

The 15-station automatic machine, developed by Collamatic Corp., jogs, counts, staples and stacks as well as collates office papers. Circle No. 10-10

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NEWS

SPA to Honor Dr. Lillian Gilbreth

Dr. Gilbreth

Dr. Lillian Gilbreth of New York City has been named to receive the 1959 "International Systems Award" at the 12th annual International Systems Meeting this month at the Royal York Hotel in Toronto.

The award is being made "in recognition of a lifetime of leadership and accomplishments in fields which contribute so fundamentally to the sciences on which business systems work is based."

It has been explained that registrants at this year's meeting will select one of three I.S.M. programs —Systems Panorama, Systems Futurama, or Seminars—for the entire conference.

Systems Panorama introduces the basic tools and techniques of the systems function to the newcomer in the field. The seminars, a regular feature, cover current systems topics with eight sessions a day either Monday or Tuesday and short roundup sessions on Wednesday.

The new Systems Futurama is described as a "look into the future of electronic data processing based on the experiences of organizations recognized as pioneers and leaders in the field."

Among the speakers in this group is B. W. Taunton, First National Bank of Boston, who will explain "Applying a Computer to Various Banking Applications." A comprehensive look at this operation appeared in the October, 1958 issue of MANAGEMENT AND BUSINESS AUTOMATION.

Controllers to Study Inflation Facts

"Inflation—Facts, Facets, Future" is the theme of the 1959 annual national conference of the Controllers Institute of America, meeting October 25-28 in the Penn-Sheraton Hotel in Pittsburgh.

Speakers at the conference, which will also consider problems in connection with foreign business operations, will include Leland Hazard, professor of industrial administration and law, Graduate School of Industrial Administration, Carnegie Institute; C. C. Caditz, president, Metal Products Co.; Leonard Spacek, managing partner, Arthur Andersen & Co.; Stephen Rundt, Rundt Associates; Jerome Bennett, staff finance executive, Ford Motor Co., International Division; and General Edward P. Curtis, vice president of Eastman Kodak Co.

In addition to the technical sessions scheduled for the event, 16 industry round tables will be held concurrently on Tuesday afternoon, Oct. 27. These will cover banking and investment; cement; chemical, paint and allied products; electrical manufacturing; mining and extractive; paper products; office equipment; printing and publishing, public utilities; and textiles and apparel.

ERMA Makes Debut

The nation's first completely automated banking system using magnetic character reading became "operational" last month as the Bank of America unveiled ERMA —a new computer controlled system —in a nationwide closed-circuit-television press conference. The action climaxed a decade of research, engineering and studies of banking procedure by officials of the bank and the General Electric Company's Computer Department.

The new electronic system, designed by General Electric computer engineers, will read, sort, and post 550 accounts per minute, or 33,000 per hour. By comparison, an efficient bookkeeper with years of experience can sort and post a mere 245 accounts per hour.

ERMA—an abbreviation of Electronic Recording Method of Accounting—is in operation at 3 Bank of America centers now, and 13 such centers are scheduled for operation by 1961.

G.E. has announced two systems to meet bank requirements. The 150 for large banks and the 210 for smaller operations. Both can suit general business purposes.

'Take Me to Your Data'

Bache and Company, one of the world's largest stock brokerage houses, has leased the IBM 705

It appeared as if the "invasion of Wall Street" might have been taking place as workmen moved $3 million worth of high-powered electronic equipment into the New York offices of Bache and Co. recently. This is a rare view of this type of equipment out in the sunlight, and rarer yet on the street.

Model III computer to handle its growing number of stock transactions.

At the same time, even as the equipment was being set up, it was announced that the firm has leased a 27,000-mile, two-way private wire network from Western Union. This system will link Bache offices throughout the nation.

The computer will be used to handle the paperwork on the company's average of 6,500 daily trades in 12 hours—half the time previously needed.

Benson-Lehner Corp. Buys Data Services, Inc.

Benson-Lehner Corp., manufacturers of data processing equipment, has acquired the Tarzana, Calif. firm, Data Services, Inc.

Adding this company rounds out Benson-Lehner's activities in the field of automatic data handling by adding data reduction and computing services to its development and manufacturing capabilities.

Dorothy O. Blaney, founder and president of the Tarzana company, will remain as technical consultant. Diana C. Fortine, general manager of the acquired firm, will be responsible for operation of the new B-H division.

West Coast Office For Mac Panel

A. M. Duggins, president of Mac Panel Co. has announced the opening of a West Coast office at 643 Seventh St. in San Francisco.

I. F. Benjamin was appointed manager of this branch operation which will be complete with a warehouse and stocks. Mr. Benjamin has joined the Mac Panel Co. after serving for many years as vice president of the Wright Line, Inc. He also served in the sales department of IBM for nearly a decade.

Kleinschmidt to Supply Australian Government

The Kleinschmidt division of Smith-Corona Marchant has been selected by the Australian government as prime supplier of teleprinting equipment, it has been announced by Emerson E. Mead, executive vice president.

The company has franchised Amalgamated Wireless, Ltd., of Australia to handle limited manufacture and final assembly.

MBA to Participate In Business Show

MANAGEMENT AND BUSINESS AUTOMATION magazine will participate in the National Business Show at the New York Coliseum on Oct. 19 to 23.

This is the second year that MBA will have space at this exhibition which is expected to attract business people from all over the world as well as the United States. It is anticipated that nearly 3,000 of the visitors this year will come from foreign countries to view the 300 exhibits in the five acres of display area.

Theme of the show this year is "Business and Communications," showing the impact of external means of communication (newspapers, magazines, radio and TV) on business and business management. In a theme center, there will be a complete studio where radio station WNEW will broadcast regular news and general programs during the five days.

MANAGEMENT AND BUSINESS AUTOMATION will be in Space 211-C.

Computer Delivers Actuarial Data

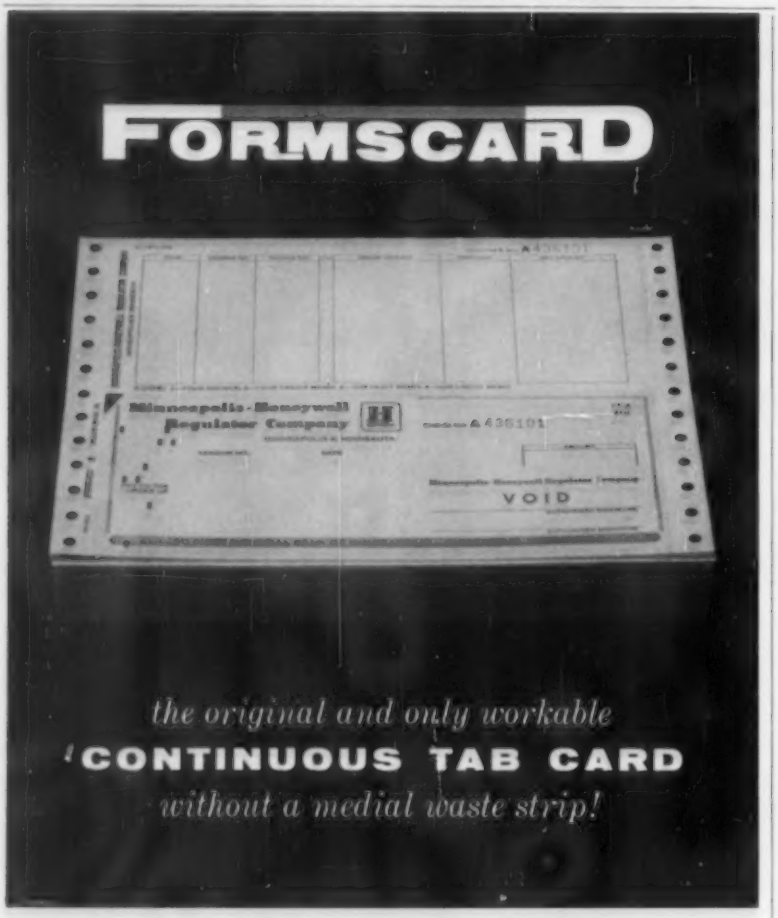
Speeding actuarial data to the insurance business is the job of this new computer installation at the National Bureau of Casualty Underwriters in New York City. With Thomas O. Carlson, left, chief actuary of the National Bureau, are Miss Angela O'Kane, director of the computer planning unit, and A. T. Craft, Royal McBee vice president in charge of the data processing division. This is the 300th computer made by Royal.

Two New Computers Added by RCA

Two all-transistor computers, one to serve small businesses and the other to cope with the paperwork load of industrial giants, have been announced by the Radio Corporation of America.

The RCA 502, designed for small business, will fit into the company's 501 system and rents from $7,000 to $12,000 monthly and up. It features a magnetic core memory of 16,384 characters, controls a monitor printer and optionally a paper tape reader, tape memory storage units, an on-line punched card reader and punch and a high-speed printer.

The 504 in a system will lease from $15,000 to $25,000 monthly. It features a new magnetic tape memory unit which handles 66,000 characters per second, a new data-handling arithmetic technique which doubles the speed of processing, and automatic indexing which enables the computer to deal with "batches" of data which have been grouped for convenience in overall control and handling.



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For More Information Circle Reader Service Card No. 10-67

On Request

The following booklets, catalogs and brochures are considered of interest to readers of MANAGEMENT and BUSINESS AUTOMATION. Copies can be obtained by using the convenient Reader Service Card and circling the corresponding key numbers.

SERVICE BUREAU CORP.—A wide range of data processing applications now being processed on a pay-as-you-go service bureau basis is listed in a new brochure which covers some 200 IBM 704-650 uses. Circle No. 10-28

REMINGTON RAND—"Visible Control for Machine Systems" is the name of a new 12-page manual which explains how visible record-keeping systems and housing equipment facilitates management decisions and gets the work done faster by expediting machine operations. Circle No. 10-22

STROMBERG-CARLSON — A 24-page booklet covering SCATE (Stromberg-Carlson Automatic Test Equipment) has been made available. Circle No. 10-23

YAWMAN & ERBE MFG. CO.—A description of uses, sizes and systems are discussed in the new "Sort-O-Mat" bulletin released by the company. Sort-O-Mat is a pre-filing system designed to eliminate the bottleneck of paperwork. Circle No. 10-24

A. B. DICK CO.—A brochure illustrating and explaining the "Speed-Reply" method of handling routine correspondence is now available. The system utilizes the company's Model 112 Photocopier and is said to cut the short reply to correspondence down to five steps. Circle No. 10-25

NATIONAL CASH REGISTER CO.—The company's line of data processing equipment is fully described in this new 22-page, illustrated bulletin. Circle No. 10-26

HANCOCK INDUSTRIES, INC.—A complete description of the "Telecontrol" system is now available. Telecontrol is a management tool for controlling production and plant efficiency from a central location. (MANAGEMENT AND BUSINESS AUTOMATION, August, 1959, page 31) Circle No. 10-27

MBA's Calendar

October 4-8—National Business Forms Associates 14th Annual Convention at Chalfonte Haddon Hall Hotel, Atlantic City, N.J. Information from F. J. Ring, secretary, 207 E. Broward Blvd., Ft. Lauderdale, Fla.

October 12-14—International Systems Meeting of the Systems and Procedures Association of America, Royal York Hotel, Toronto, Canada.

October 18-23 — National Business Show, New York Coliseum, New York City.

October 25-28—Controllers Institute of America, 1959 annual national conference. Penn-Sheraton Hotel, Pittsburgh, Pa.

October 28-29—Sixth annual Computer Applications Symposium sponsored by Armour Research Foundation of Illinois Institute of Technology at the Morrison Hotel, Chicago. Contact M. J. Jans, conference secretary, Armour Research Foundation, 10 W. 35th St., Chicago 16, Ill.

October 28-30—Second annual Equipment Systems Conference and Exhibit, Conference Building, Balboa Park, San Diego, Calif. This conference is sponsored by the Navy, the City, local colleges and most of the professional groups such as NMAA and SPA.

November 5-6—The 23rd annual Industrial Engineering and Management Clinic, Conrad Hilton Hotel, Chicago. Sponsored by Industrial Management Society, 330 S. Wells, Chicago 6, Ill.

November 11-13—Sixteenth national meeting of the Operations Research Society of America, Huntington Sheraton Hotel, Pasadena, Calif. Details from ORSA, Mt. Royal and Guilford Aves., Baltimore 2, Md.

December 1-2—1959 Eastern Joint Computer Conference, sponsored by the AIEE, ACM, and IRE. Statler Hilton Hotel, Boston, Mass. F. E. Heart, Lincoln Laboratory, Lexington, Mass., is chairman.

December 3-5—Third annual International Visual Communications Congress, sponsored by the Society of Reproduction Engineers. Statler Hilton Hotel, New York City.

December 16-18—AMA Workshop Seminar in New York on Electronic Data Processing, analyzing operations for the application of EDP. For details write American Management Association, Inc., 1515 Broadway, New York 35, N.Y.

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EDITORIAL

Why Overlook The Systems Man

A recent survey on "Paperwork Problems", conducted by Charles Bruning Co., Inc. among the presidents of the 500 largest companies in the United States, contained a multiple choice question which asked, "What type of counsel has been called in to help simplify paperwork?"

In reply, 66.6 percent of the respondents indicated that they had called in management consultants; 59.4 percent turned on occasion to suppliers of office and systems equipment; 19.6 percent relied on systems experts from accounting firms; 13.6 percent asked for help from business associates, friends or acquaintances; and 10.8 percent have used internal personnel.

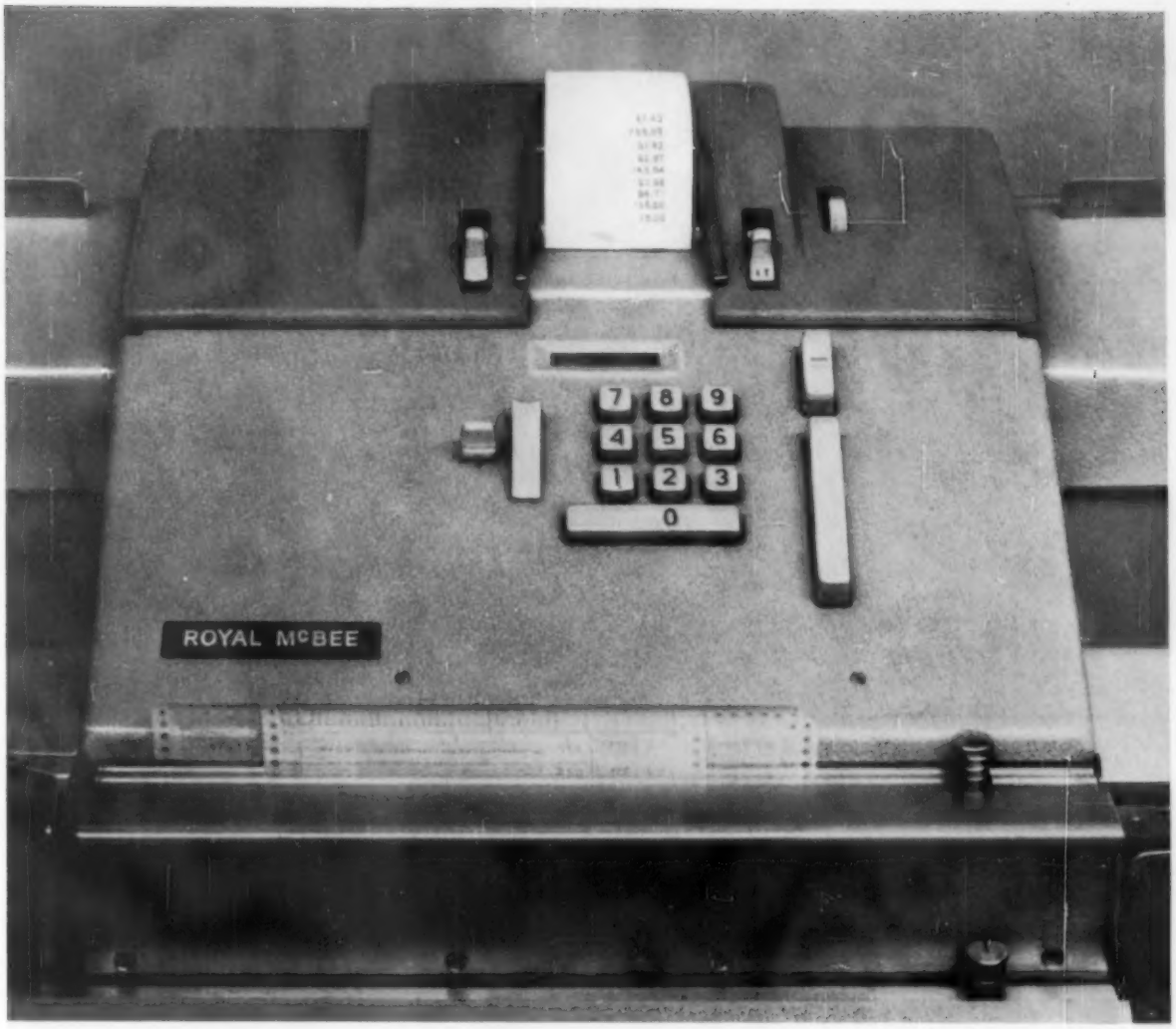
Assuming validity of the survey results, it appears as though systems personnel of the participating companies are the last people management turns to for advice and assistance. Actually, there has been growing evidence of this for some time. Too often, the systems man is relegated to the menial clerical tasks of the organization or his efforts confined to some small scope of the company's operation.

At the same time, management welcomes with open doors the so-called "specialists"—some of whom, for a fee, would recommend electronic data processing for the local Chinese laundry. This is not to say that the honorable profession of management consultants has been overrun with charlatans, but the percentage of "phonies" seems to be alarmingly high.

If management would begin to think of their own systems people as full-time consultants and give them the top-level support necessary to break the political and departmental barriers that inevitably exist, the field would be far less attractive to the pseudo-consultant.

The records show that a competent internal systems staff, given proper recognition and authority, will solve most problems at far less cost to management—and with much less confusion and disillusionment—than would be occurred by using a consultant.

Never before has the systems man had more to offer his management. We find it difficult to understand management's failure to accept the offer.



This one low-cost,

easy-to-use machine

...at the heart of Automatic Keysort Data Processing

What you see here is the Keysort Tabulating Punch – the only complete punched-card processing machine in the business world. It is the only machine you require to automatically tabulate vital figure-facts on every phase of operation for fast, accurate management reports. No special training is required for operation, and the machine imposes no restrictions on present accounting procedures. Rental is less than $100 a month. Your nearby Royal McBee Data Processing Representative will be happy to arrange a demonstration. For complete information, call him or write Royal McBee Corporation, Data Processing Division, Port Chester, N.Y. for brochure G-39.

ROYAL McBEE · *data processing division*

NEW CONCEPTS IN PRACTICAL OFFICE AUTOMATION

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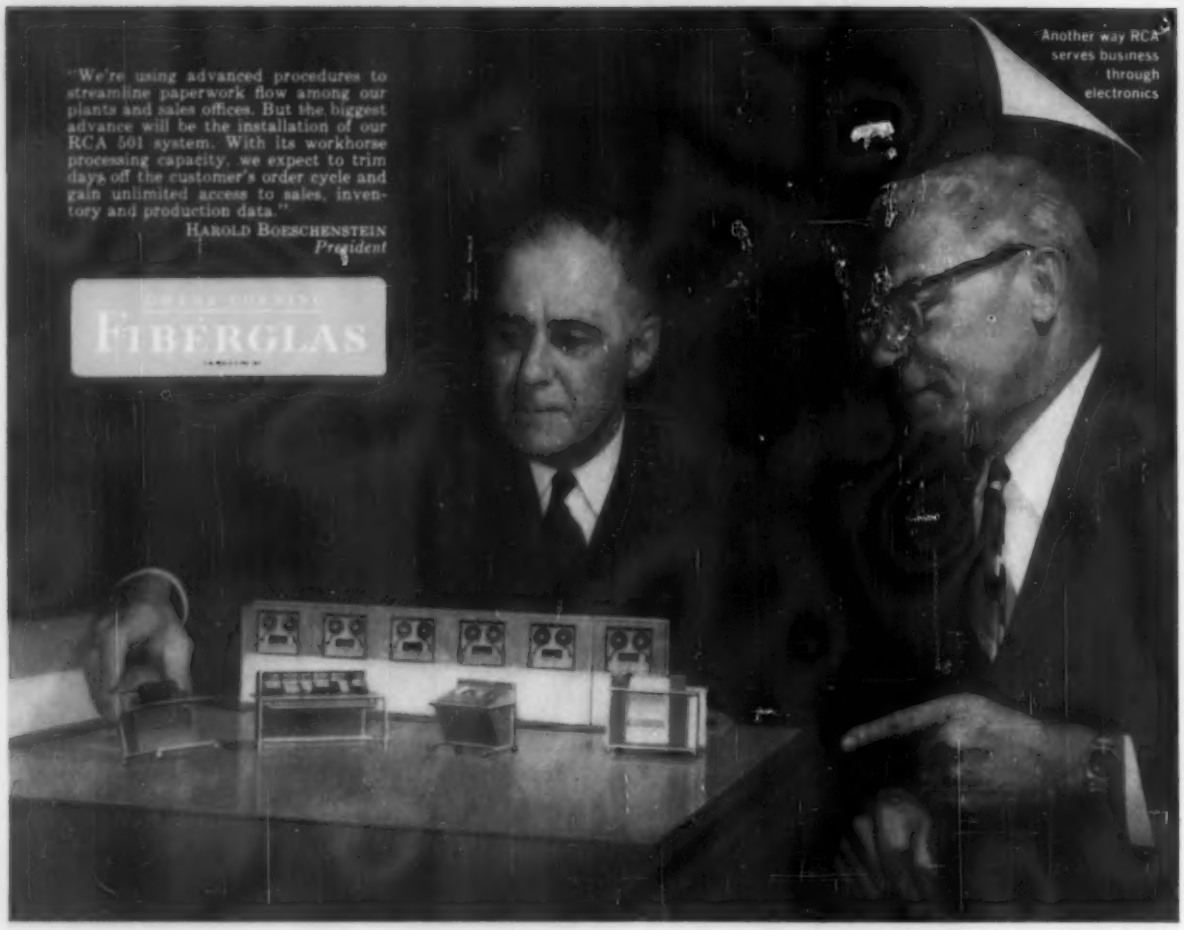

"We're using advanced procedures to streamline paperwork flow among our plants and sales offices. But the biggest advance will be the installation of our RCA 501 system. With its workhorse processing capacity, we expect to trim days off the customer's order cycle and gain unlimited access to sales, inventory and production data."
HAROLD BOESCHENSTEIN
President
FIBERGLAS
Another way RCA serves business through electronics

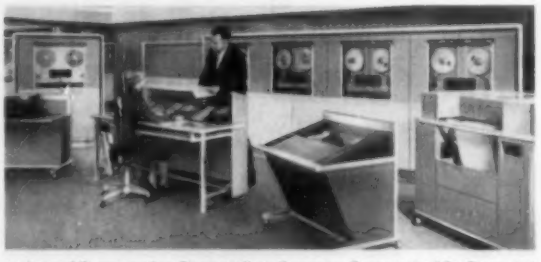
Left to right: Harold Boeschenstein, President and H. M. Cranston, Comptroller, Owens-Corning Fiberglas

"We do the thinking and the RCA 501 does the work"

To handle its tremendous load of paperwork, Owens-Corning Fiberglas has ordered an RCA 501—the world's most modern electronic data processing system. Linked to a 12,850-mile Teletypewriter network, this system will receive information directly from sales offices and manufacturing plants and handle order processing, invoicing, sales analysis, inventory control, and eventually production scheduling.

Owens-Corning selected the RCA 501 for several important reasons. First of all, the RCA 501 offers speed. It can handle each application in a highly efficient manner and at a remarkably low cost per unit of work. Secondly, the system can be expanded as needed. Owens-Corning is starting with a basic system, to which units may be added as more capacity becomes needed. Thirdly, the all-transistor construction of the RCA 501 helps cut costs by drastically reducing size and weight as well as power and cooling requirements.

For full information about the RCA 501 and its advantages to your business, visit the RCA 501 Electronic Data Processing Center at Cherry Hill (near Camden, New Jersey). To arrange a visit to the center, address RADIO CORPORATION OF AMERICA, Electronic Data Processing Division, Camden 2, New Jersey.



At the world's most modern Electronic Data Processing Center in the RCA-Cherry Hill plant near Camden, N. J., the RCA 501 may be seen in full-scale operation serving business, industry and government.

RCA 501
ELECTRONIC DATA PROCESSING SYSTEM

Tmk(s) ®

RADIO CORPORATION of AMERICA

ELECTRONIC DATA PROCESSING DIVISION • CAMDEN 2, N. J.

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